

Volume 77 Number 4
April 2009

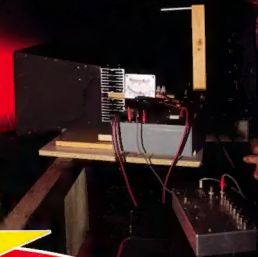
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Amateur Radio

Volume 77, Number 4
April 2009

The Journal of the Wireless
Institute of Australia
ISSN 0002-6858

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Production Deadlines

General articles, columns and
advertising booking 5th day of
previous month.

Hamads and advertising material 10th
day of previous month

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Our Cover this month

Joe VK7JG with a high power LED optical transmitter during tests of over the horizon optical communications. Fog had started to envelop the site. See the detailed story in this issue on page 22.
Photo by Alvin de Quincey VK7NDQ.

Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

Back Issues

Back issues are available directly from the WIA National

Office (until stocks are exhausted), at \$8.00 each (including postage within Australia) to members.

Photostat copies

When back issues are no longer available, photocopies of articles are available to members at \$2.50 each (plus an additional \$2 for each additional issue in which the article appears).

Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

Amateur Radio Service

A radio communication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Peter Freeman VK3KAI

Recovery

Following the fires and floods of February, many communities are starting to move into the various phases of recovery. Parts of Queensland are starting to dry out and are probably looking forward to the end of the wet season. I think most would also be aware of the task ahead in southern Queensland following the oil spill from a large cargo vessel.

In Victoria, the clean up of sites impacted by fires has begun and news is circulating of how the large sum raised by the appeals will begin to be distributed. Individuals are starting on the tasks required to start to return to normality - the steps may be the construction of new fencing, or the long road of planning the construction of a new house to replace the home lost to the fires.

This issue of AR carries some stories of the involvement of amateurs during the fires. Not all the individuals will be identified, but entire communities ultimately owe a great deal to all who volunteered and worked during the emergency, regardless of the agency, amateur or otherwise.

Contests

We all offer our congratulations to those who did well in the Ross Hull and Summer Field Day contests.

The results appear elsewhere in this issue. They show something very important, especially in the case of the Ross Hull Contest - you cannot win if you do not submit an entry! An event such as the Ross Hull presents many challenges, not the least of which is that it ran for an entire month this year.

The overall winner will tell all that his score came about from being in the radio shack only when it was possible - Robbie runs his own very active business, so he was not sitting in the shack for days on end just waiting for propagation to bring a new contact. Congratulations Rob.

As this issue is being prepared, the John Moyle Memorial National Field Day is fast approaching.

Unfortunately, the weather is looking as if it will not be kind for those out on hilltops in south-eastern parts of the country. In my view, all who participated should submit their log to the Contest Manager, even if they consider that they

have no chance of winning.

It is not the winning that is important, especially in this contest; it is the preparation and participation. Everyone who operated portable deserves recognition of their efforts. Part of that recognition comes from your log score being listed in the final results.

More hard work

Many will be aware that the staff at the WIA office have been working extra hard in the last month, especially because of the introduction of the new system regarding the issuing of call signs and Certificates of Proficiency.

Some further discussions arising from the consideration of these tasks appear in News and Comment in this issue. It looks as if the office and Board team has more work still to come.

Much work has been occurring to prepare for the WIA Annual General Meeting and the GippsTech - Special Event weekend of activities to occur in Churchill on the first weekend of May.

I do look forward to catching up with many of you who attend - hopefully perhaps most. As the key organiser of the GippsTech components of the weekend, I am sure you can appreciate that I may be very busy at times!

Finally, remember that the traditional GippsTech event is scheduled for the weekend of 11 and 12 July!

73

Peter VK3KAI

Erratum

Author Ron Saunders VK2WB, informs us of this correction in "Matching Network Software" in the March AR:

On page 21, in the last 2 paragraphs in the first column all references to C2 should be C1. I mixed up the source and load ends of the network on the schematics. One program puts the source at left and the other puts it at right - I usually work left to right (source to load) in schematics.

On page 22 the reference to power calculation does not show the 2 as a squared value. Probably clear to most readers, but some may wonder how the values are obtained with the formula as shown.

The formula should therefore be:
 $P = E^2/R = (70.7)^2/50 = 100 \text{ W}$
73 de Ron VK2WB

VK9 Callsigns

On 2nd March 2009 the WIA took over responsibility for "managing" amateur callsigns.

"Managing" means recommending the allocation of particular callsigns in accordance with certain rules, and details can be found on the WIA website.

Very soon after 2 March I became aware that VK9 callsigns were the subject of some discussion and concern. If the WIA had the role of recommending callsigns, we had better do our best to get it right.

But the more I asked questions, the less obvious the answers became. I find criticism of what has been done in the past. Looking at the VK9 list in the WIA Call Book I see no coherent application of policy. I find a current complaint "Can anyone advise why the new Expedition callsign is using a three letter callsign beginning with G?" It becomes obvious that while many people have strong opinions on the matter, there is no unanimity as to how VK9 callsigns should be managed.

So I decided to write this Comment to identify the issues as I saw them, and to invite comments with a view to formulating a policy that we could recommend to ACMA (Yes, "recommend", we are not the decision maker!).

Why is VK9 important? Because VK9 is allocated to the Australian External Territories and includes some highly sought after DX locations.

If we are looking for policy, we must ask "What does ACMA say about VK9 callsigns?"

There are two items that relate to VK9. One is included in the Amateur Callsign Structure, part of the Rules that govern the WIA, and is included in the material we publish on our website. That says:

"Amateur callsigns for Australian External Territories have the prefix VK9. In most cases, the first or second letter after VK9 (the fourth or fifth character of the callsign) is used to identify each Territory or area:

C = Cocos Island;
N = Norfolk Island;
W = World;
X = Christmas Island;

L = Lord Howe Island; and
M = Mellish Reef.

For example, VK9CA identifies that the station operates under an Advanced licence from Cocos Island, VK9NCA identifies that the station operates under a Standard licence from Cocos Island, and VK9FCAA identifies that the station operates under a Foundation licence from Cocos Island."

Now, note the "in most cases"! The "geographic indicator" may be the fourth or fifth character of the callsign. And what on earth "World" means is completely beyond me, but let us leave that on one side.

Looking at the list of VK9 callsigns in the Callbook makes it obvious that, whatever is said, over the years there has not been any consistency in the issue of VK9 callsigns.

So far as amateurs not resident in the External Territories are concerned, what is the need?

Anyone with a VK callsign can use their VK call "portable" in any Australian state or territory.

Any overseas amateur visiting Australia may for the first 90 days of the visit use his or her callsign under the Class Licence for Visiting Overseas Amateurs. The notes to the Class Licence say specifically "This Class Licence applies to Australian territories in the same way that it applies to mainland Australia".

But we must accept that, for the very reasons I have identified, some people will want a VK9 callsign. So, is there something special about VK9 callsigns so that they should be controlled differently from any other Australian callsign?

So, perhaps a first question becomes, do we want to preserve a geographic indicator?

If we want to preserve a geographic indicator, we could do it the way ACMA suggest, that is the first or second letter after the VK9 can be the geographic indicator.

But if we wanted to, we could make the geographic indicator the first letter after VK9. That would address some of the criticism I have heard. For example,

the policy could become:

VK9CA to VK9CZ or VK9CAA to VK9CAZ. VK9CBA to VK9CBZ and so on identifies that the station operates under an Advanced licence from Cocos Island, VK9CHA to VK9CHZ, VK9CNA to VK9CNZ and so on identifies that the station operates under a Standard licence from Cocos Island, and VK9CFAA to VK9CFZZ identifies that the station operates under a Foundation licence from Cocos Island."

That does not do much for two letter calls!

But what about a person who wants a VK9 callsign to visit a series of territories? Perhaps for those people you can issue a callsign that does not fall into a block including the first letter after the VK9 that is a geographic indicator.

But does all of that become meaningless if anyone can use a VK9 call as portable anywhere in Australia?

To make a callsign with a geographic indicator meaningful, do you need to impose a condition on the licence that it may only be used in the Territory appropriate to the geographic indicator?

But can a geographic indicator ever become meaningful given the callsigns that have been issued in the past, and the fact that you cannot rewrite history?

But what about a VK9 callsign without a geographic indicator? Should we consider a condition of a licence that a VK9 call without a geographic indicator can only be used in the Australian External Territories and not elsewhere in Australia?

The problem with that is that a person resident in an External Territory with a VK9 callsign has a restriction imposed on him or her that is not imposed on anyone else.

The other ACMA policy relating to VK9 callsigns is to be found on the ACMA website under Callsigns, and this is a brief note that says:

"VK9 prefix callsigns are allocated to amateurs residing in or visiting Australia's External Territories, other than Antarctica. Licences with VK9

New procedure and forms for Callsigns on the WIA website

From Monday 2 March 2009 ACMA has required a WIA Callsign Recommendation before issuing a new amateur station licence or changing the callsign of an existing licence, although this has not been necessary for people who successfully completed assessments before 2 March 2009 by WIA Assessors and requested the WIA to forward their applications for a station licence to ACMA.

From 2 March 2009 anyone has been able to search a Public List of Available Callsigns on the WIA website, which has been updated daily. This Public List allows those who wish to choose a callsign to see what callsigns are available.

The WIA has now placed on its website full information about how to obtain a Callsign Recommendation, information on the cost as well as the necessary forms which can be downloaded.

The details are on the WIA website, under the tab "Become a Radio Amateur", then "Callsigns and certificates".

The forms that can be downloaded include the form to be used in association with an amateur assessment conducted by a WIA Assessor. Details are also included of the special arrangements for two letter callsigns in Victoria, New South Wales and Queensland.

The WIA will not issue a callsign recommendation for any callsign until seven Working Days have elapsed from when it was first put on the Public List.

During that time, if something has gone wrong, it can be returned to its rightful owner. But someone must let

the WIA office know there is a problem during those seven Working Days. So, amateurs are urged, if they see a callsign being listed as available and suspect there is a mistake, to let the person concerned know, and encourage him or her to immediately contact the WIA office.

The public list has been very popular with over 10,000 hits in the first two weeks and with positive feedback from amateurs saying that selecting a callsign is now much easier.

IARU appoints new President and Vice President

Tim Ellam VE6SH has been appointed International Amateur Radio Union (IARU) President for five years from 9 May 2009, with Ole Garpestad LA2RR as Vice President, following ratification of their nominations by the member societies of the IARU.

Tim comes from Calgary, Alberta, Canada and is partner in the Canadian law firm McCarthy Tetrault. He has been IARU Vice President for the last five years, replacing David Wardlaw VK3ADW in that position.

Ole is a telecom and audio engineer, and stepped down as President of IARU Region 1 to take this position.

Larry Price W4RA declined a further term as IARU President, after very many years with IARU.

Larry was IARU Vice President from 1983 to 1984, IARU Secretary from 1989 to 1999 and IARU President from 1999 to 2009. Larry has spent a great deal of time in Geneva, representing IARU at many different levels, and is greatly respected.

WIA issues Certificates of Proficiency

Since 2 February 2009 the WIA has been issuing Certificates of Proficiency pursuant to a delegation under the Radiocommunications Act and in accordance with the Deed between the Australian Communications and Media Authority (ACMA) and the WIA.

A very few successful candidates have not provided the necessary signed photograph and details on the Assessment Sheet completed at the time of their assessment. There is no additional fee for the issue of the Certificate of Proficiency and all candidates are urged to obtain their Certificate of Proficiency as soon as possible after successfully completing the assessment.

Further information on obtaining a Certificate of Proficiency can be found on the WIA website, under the tab "Become a Radio Amateur", then "Callsigns and Certificates".

The Certificate of Proficiency Application Form is at the end of the Guide to Certificates of Proficiency.

WIA AGM and Open Forum

Preparations have continued for the WIA Annual General Meeting and Open Forum on 2 May 2009 at the Monash University Gippsland Campus at Churchill and the weekend of exciting activities associated with the AGM.

Formal notice was included in the last issue of AR and has been posted to all members who do not receive AR.

Details of the GippsTech - Special Edition, a feature of the weekend, and the other activities can be found on the brochure included with this AR.

WIA Comment continued

callsigns allocated to visiting amateurs will only be issued for the duration of their visit and will not be renewed."

When I look in the WIA Call Book under VK9 I see many VK9 callsigns held by people who seem to have visited Australia's External Territories and are not resident in VK9 but still hold their callsign.

Is there any reason to attempt to impose that restriction? Is ACMA entitled to impose that restriction?

Should that restriction be retained?

Is the simplest solution to treat VK9 callsigns no differently from other callsigns, and allow people to hold them as they hold any other callsign and not bother about attempting to include any geographic indicator, or restricting their issue or use beyond the restrictions on the use of all licences found in the LCD.

But what should be done? I have written this Comment to invite everyone who is

interested to send their opinion to the WIA, so we can see if amateurs generally think there should be something special about the management of VK9 callsigns and if so, what should that be.

Send you opinions by mail or by facsimile to the WIA Office, or by email to secretary@wia.org.au in the next week or so.

Perhaps, with your help, I will not be quite as confused as I am now.

ar

ar

A handy portable mast support

Anthony Rogers VK3JIA

Recently I had to tune a 28 MHz vertical antenna. Rather than climb on to the roof, continually raising and lowering the antenna each time, I came up with the idea that it would be better to mount the antenna at a lower height, for tuning purposes. Offered here is a simple yet practicable way of supporting the mast and antenna – as we all get a bit older (I am 41), the prospect of getting up on to the roof or tower to tune antennas can be undesirable, and unsafe.

My QTH has an almost flat roof, so I have an advantage. Its lowest point is about 2.7 metres; however at the front of the house it is close to 6 metres, and a fall from that height would not be good. Going up and down the ladder two or three times can be tiring and frustrating if the antenna turns out to be a real stinker to tune.

This system can be used almost

anywhere, as a temporary support. I even had it in place for three weeks, and it still stayed put. However, this is not recommended.

Equipment needed is one length of 40 mm OD pipe, one plastic garden chair, one 25 litre water container and 25 litres of water (or sand).

Fill the plastic container to the brim with water or sand, and then put the length of pipe in the top as shown in Photo 1.

You will need to jam the pipe into the plastic container to stop it from moving about and unbalancing the system.

Place the garden chair near the pipe. Refer to Photo 2. It is then possible to stand on the chair and make the necessary tuning adjustments. Even in a small breeze no movement was observed.

When the antenna is tuned, the mast and antenna can be raised to its normal position. Some slight change in tuning may result. I have found here that tuning the antenna slightly too long results in

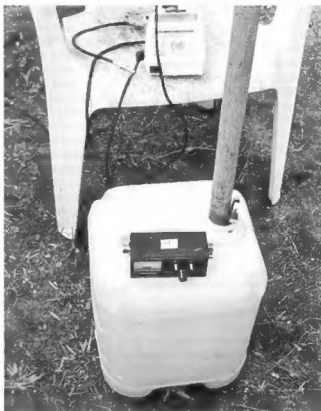


Photo 1: A close up of the pipe mast nicely 'jammed' in the container.

the SWR reducing when in the final position.

Here is a safe, quick and reliable method for temporary antenna erection when carrying out preliminary tuning. When not in use the items can be stored neatly in the garage for next time. There is also no reason why this could not be used portable or on field days. In this instance sand would probably be better, and some additional sand for use in guying would keep the public liability legal eagles happy!



Photo 2: The plastic chair in place, allowing easy antenna tuning adjustments.

A manual controller for microwave step attenuators

Mike O'Ryan VK4YNQ

Are you looking for something better than the standard homebrew slide-switch type step attenuators often found in amateur radio workshops? Presented here is a simple CMOS based logic circuit for use with the professional, high quality HP3332X or HP894X series microwave latched step RF attenuators. The circuit draws very little power, has a low RF signature and allows flexibility in construction.

1. Background

While discussing various RF projects with fellow amateur radio enthusiasts, a general theme often drifts into the conversation concerning RF attenuators. "I have just bought a Digital Signal Generator Kit from Mini-Kits (VK5EME) and would really like to put a good 70 dB attenuator on its output. Got this beautiful case to put it in, but not much front panel space to put much else onto it though"; or "I need a reliable 50 to 70 dB RF attenuator in 'L' band and have a few programmable ones in the junk box but I cannot find a circuit to drive them".

Many amateurs stay with manually operated, tubular step attenuators because they are relatively easy to install where front panel space allows this. Costs vary from between AUD\$70 to \$250 for 4 GHz units, increasing to AUD\$400 to \$500 for 18 GHz units, and higher for 26 GHz devices. Programmable step attenuators are similarly priced and do allow flexibility in construction and layout, but do require some experience in software programming to incorporate into your own designs.

The subject of RF step attenuators also arose with Peter VK5ZPG when discussing the design for an instrumentation up-converter using his HP8922S operating as a spectrum analyser. In Peter's case, he already had on hand suitable programmable step attenuators, the HP33321SC (see Figure 1), rattled from a HP83220E mobile telephone test set (which was of no use to him) that accompanied a HP8922S GSM Test Set. For most of us however, obtaining good attenuators is a careful balance between a project need and available funds for purchasing either manual or the more costly programmable step attenuators. As amateur radio experimentation goes higher into the

microwave GHz frequency bands, the need to buy microwave step attenuators becomes more important for output reliability and mismatch loss reasons in home built test equipment. For operations below 4GHz, the HP3332X (see Figure 1) series attenuator are at the cheaper end of the scale (USD\$50 to \$150 on eBay, plus postage) and an excellent alternative compared to constructing one from discrete components. When buying these units second hand or off eBay, always check with the seller that the unit has been tested and is fully functional before buying.

Whilst home-made step attenuators using the tried and trusted method of using slide switches and 1% carbon

resistors are fine up to around 60 MHz, their performance at higher frequencies becomes lumpy and unreliable. Since



Figure 1: HP33321SC microwave attenuator with in-line ribbon header.

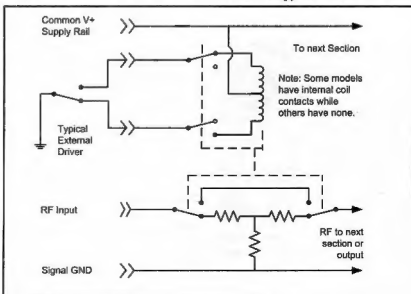


Figure 2: An attenuator section electrical diagram.

Peter needed reliable operations to 1 GHz for his up-converter, the focus remained with commercially made microwave attenuators.

So the challenge was to design a programmable RF step attenuator controller board that encompassed the following concepts:

- A simple CMOS logic circuit that's easily de-bugged;
- No microprocessors;
- Have a minimum of three attenuator driver channels to cope with the common 70 dB range needs;
- Ability to easily expand the range by cascading two units to a four to six channel arrangement to get 140 dB attenuator range; and
- A simple multi-position front panel selector switch(s) to 'dial up' the RF attenuation needed.

Programmable attenuators – Agilent models

The most commonly available programmable attenuators on the second hand market are made by Agilent (formerly known as Hewlett Packard). A summary of the HP849X attenuators is shown in Table 1. They are aimed at the benchtop service environment. A pair of HP 8494/5/6/7 attenuators can be connected in series with a HP 11716A interconnect kit which contains a rigid RF cable, mounting bracket, and necessary hardware to connect any pair of HP 8494/5/6/7 attenuators in series. The HP3332X attenuators in Table 2 are aimed at being embedded inside test equipment and may also be cascaded if desired.

These 'programmable attenuators' use miniature drive solenoids that have a switching time of about 20 milliseconds. Once switched, strong permanent magnets hold the solenoids (and attenuation value) in place – that is, they are bi-stable or 'latched'. A typical HP89XX and HP3332X series solenoid cell drive is shown in Figure 2 (see Reference 1). Using this simple type of drive however requires a power supply with high current capacity. If four solenoids are active, then 12 W of heat is being dissipated in the attenuator housing without any benefit or need. An intelligent pulsed solenoid drive is therefore needed with the latched solenoids.

Programming of the HP849X attenuators is done through a 12-pin Viking socket which can be rather difficult to obtain in small quantities, or an optional ribbon cable with DIP plugs. Programming of the HP3332X attenuators is done with a ribbon cable with either an in-line header plug or DIP plug which makes them more suitable for embedded home construction. Having a simple in-line header on a PCB would be the easiest connection method for any attenuator selected.

2. Design description

2.1 General

The attenuator controller board (ACB) circuit is designed as a fixed state machine with everything running off a fixed astable clock operating at an approximate 10 Hz rate. The ACB (Figure 3) is functionally divided into the following sections:

- Clock and power-on reset;
- Input panel switch diode array;
- Input latches for three attenuator sections (channels);
- Bi-stable pulse generator for three attenuator sections (channels);
- Power supply.

The digital logic CMOS ICs chosen can all operate on any voltage between +5 V to +15 V.

2.2 Clock and Power ON reset

The circuit is designed as a fixed state machine with everything running off a fixed astable clock operating at approximately a 10 Hz rate. This is set by the inverter IC1B and the timing components R4 and C4. The clock is divided by two with IC3B and sets the input command line sampling rate of 5 Hz (that is, every 200 ms). The circuit is initialised when power is first applied by setting the internal command line latches high and thereby indicating maximum attenuation. This state is maintained while C10 charges up for approximately 0.6 second.

2.3 Input diode array

For attenuator step selection, a simple binary weighted diode array was selected as the most economical and adaptable approach for home construction. Nine diodes (D3 – D11) provide the binary coding for three channels. A single pole eight position switch is all that is required to dial up any 10 dB step between 0 to

70 dB, by simply grounding one of the seven diode array input lines.

The diode array output consists of three binary weighted lines that go to a configuration header and can also be used for expansion to other boards if needed. The jumper settings are normally 1-2, 3-4, 5-6 for standard binary coding as used in the HP849X and HP3332X attenuators. Attenuators that do not follow the sequential binary weighting, such as the HP3332SG 35 dB attenuator, will need a different configuration setting (1-4, 3-6, 5-2 in this case).

The three binary weighted lines are filtered with 10 ms RC networks and squared up with Schmidt trigger gates (IC1D, E, F).

2.4 Command line latches

The state of the three input channel command lines are periodically sampled by first latching their states with three D-flip-flops (IC2A, B and IC3A) and then the inputs are processed by the following pulse coding stage before the next sampling.

2.5 Pulse coding stage

Each of the three pulse coding stages consists of two D-flip-flops and two AND gates. There are two bistable output lines from each stage and only one of the two output lines is momentarily pulsed when an input command line state change has been detected. For example, when the D-input on IC4A goes from low to high state, a solenoid ON pulse is generated at IC7B for one clock period (that is, 100 ms). No further solenoid pulses are generated if the command line remains high. When the input command line to D-input pin of IC4A goes from high to low however, a solenoid OFF pulse is generated at IC7A for one clock period. No further solenoid pulses are generated if the command line remains low.

2.6 Solenoid drivers

Each of the bi-stable outputs drives an open collector BC337 switching transistor (Q1 to Q6). All solenoid commons are attached to the +ve supply rail and the switching transistors pull the selected solenoid 'half' (ON or OFF) to ground momentarily. Diodes D12 to D17 clamp the inductive solenoid switching spikes to the +ve rail supply. Transistor base resistors R9 to R14 allow operation with a +15 V rail and switching currents of 200 mA. Should a +5 V DC rail be

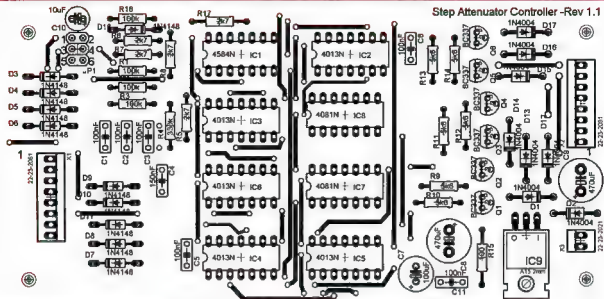


Figure 4: Top overlay showing components and wire jumpers.

needed for some attenuator versions, then change R9 to R14 to 1k2 for +5 V operation as this provides an increased 300 mA switching current needed for these attenuator solenoids.

2.7 Power supply

An input power supply may be in the range of +7 V to +25 V DC depending on the rail voltage needed and for a regulated +15 V DC rail, then the

minimum input supply voltage is +17 V. An on board three terminal regulator, which in this case is a LM7815 (IC9) provides the +15 V DC. The rail voltage may be changed to a lower voltage if

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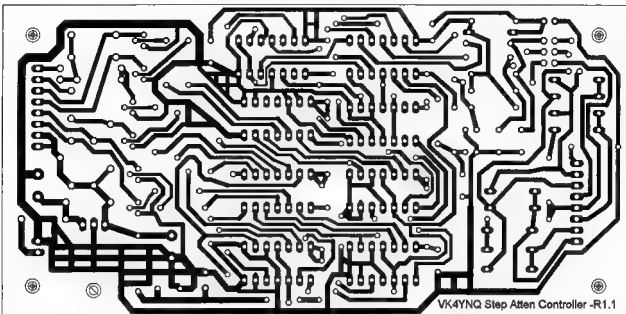


Figure 5: PCB copper track side.

required by the step attenuator rating, for example a +5 VDC rail, by changing the terminal regulator to a LM7805 regulator, and transistor base resistors R9 to R14 changed in value.

Idle current consumption is very small at 4 mA. Solenoid current depends on the versions obtained; the +24 V version draws 125 mA, the +15 V version draws 200 mA, and the +5 V versions draw

300 mA per solenoid. Using the +15 V case, when solenoid activation occurs, the current jumps to 200 mA per solenoid for 100 ms (or 600 mA if all three are activated within 200 ms sampling period, or 900 mA if using the 5 V solenoid versions), then drops back to an idle current of 4 mA. The low duty cycle also allows the regulator to be mounted flat on the PCB without any heatsink required.

Surge currents for the solenoids are provided with electrolytic caps C9 and C8. The supply line to the logic circuits is decoupled from the solenoid rail via the series 100 ohm R15 and the 100 uF C7 to provide a stable rail.

The power supply is protected from accidental reverse polarity connection by the series diode D2.

HP849X Attenuator Summary

	Step size	Attenuation	4 GHz	18 GHz	26.5 GHz	Sections (dB)
Manual	1 dB	0 to 11 dB	8494A	8494B		1,2,4,4
	10 dB	0 to 70 dB	8495A	8495B	8495D	10,20,40 (A,B) 10,20,20,20 (D)
		0 to 110 dB	8496A	8496B		10,20,40,40
Programmable	1 dB	0 to 11 dB	8494G	8494H		1,2,4,4
	10 dB	0 to 70 dB	8495G	8495H	8495K	10,20,40 (G,H) 10,20,20,20 (K)
		0 to 90 dB			8497K	10,20,20,20
		0 to 110 dB	8496G	8496H		10,20,40,40

Table 1: HP849X attenuator summary.

3.0 Construction

A single layer PCB was designed with dimensions 71 x 143 mm to allow easy copper track transfers to standard copper PCB blanks that are available from Jaycar and Dick Smith (75 x 150 mm stock items) See Figures 4 and 5.

Although 'ugly' and 'paddy-board' methods of construction, using either PCB blanks or 'vero board' were considered, the complexity of inter-IC wiring could make for confusion, so a PCB design was settled on as being easiest in the long run. The schematic capture and PCB program used was Eagle PCB Software from CadSoft.

An easy method to produce the PCBs is with a resist transfer method available from Jaycar 'Press and Peel' film (Cat HG-9980). The image is printed onto the transfer paper with a laser printer and then ironed onto a cleanly scrubbed copper blank. The film is then peeled off the PCB and the board is then etched in ammonium persulphate solution (Cat NC-4254) or alternatively ferric chloride solution available from Dick Smith

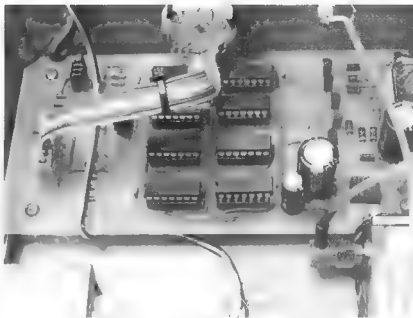


Figure 6: Photo of the assembled attenuator control board.

outlets. PCB holes are drilled as needed. (PCB track layout images are available from the author.)

All compon-ents, except the CMOS ICs, are installed onto the board. IC sockets are recommended for fitting

HP3332X Attenuator Summary

	Step size	Attenuation	4 GHz	18 GHz	26.5 GHz	Sections (dB) (in sequence)
Manual	1 dB	0 to 11 dB	33320A	33320B		1,2,4,4
	10 dB	0 to 70 dB	33321A	33321B	33321D	10,20,40 (A,B) 10,20,20,20 (D)
		0 to 110 dB	33322A	33322B		10,20,40,40
Programmable	1 dB	0 to 11 dB	33320G	33320H		1,2,4,4
	5 dB	0 to 35 dB	33321SG			10,5, 20
		0 to 75 dB	33321SD			5,40,30
		0 to 70 dB	33321G	33321H	33321K	10,20,40 (G,H) 10,20,20,20 (K)
	10 dB	0 to 70 dB	33321SC			10,40, 20
		0 to 90 dB			33323K	10,20,20,20
		0 to 110 dB	33322G	33322H		10,20,40,40

Table 2: HP3332X attenuator summary.

the 14 pin DIL ICs for ease in repairs if needed. Install all top side wire links and check wiring thoroughly.

Using an ohmmeter, check continuity is present on all ICs Pin 7 to power supply ground on X3. Apply power and check the positive rail voltages are present (+15 V +/- 0.6 V for LM7815 as IC9) on pin 14 of all logic ICs. Now turn power off, discharge the supply caps by shorting C7, and then install the CMOS DIP ICs.

Connect X1 header via ribbon cable to the rotary single pole, eight position switch. The single pole lug is wired to X2-pin 1 ground. Leave the switch in the '0 dB' position and not grounding any of the diode array input lines. Install the appropriate configuration jumpers in JP1 to suit the attenuator at hand. A photo of an assembled board is shown in Figure 6 and part of the RF attenuator with its SMA connectors is seen at the bottom right of the picture. Bulkhead RF connectors should use 360 degree crimp connections for cable shields.

4.0 Testing

Check the oscillator is running at approximately a 10 Hz rate with an oscilloscope or frequency meter on IC1A pin 2 and at a 5 Hz rate on IC3B pin 12.

Now check each command channel individually. This can be done with an oscilloscope placed on the AND gate outputs, or you can construct a small resistor LED array to visually monitor the outputs directly on the X2 header.

To construct the LED array, use six sets of a 1k5, 1/4 watt resistor in series with a LED. Tie all six LED anodes together and wire to the 8 pin cable header for X2 Pin 2 which is the +15 V supply line. Then wire the individual LED resistors to X2 Header pins 3 to 8 as follows (the colours are those for the HP33321SC 70 dB attenuator ribbon harness):

- X2-Pin1 and Pin 2 = +V rail = **Brown**
- X2-Pin 3 ~ Binary 1 OFF = 10 dB OFF - **Red**
- X2-Pin 4 = Binary 1 ON = 10 dB ON = **Orange**
- X2-Pin 5 ~ Binary 4 OFF = 40 dB OFF - **Blue**
- X2-Pin 6 ~ Binary 4 ON = 40 dB ON = **Violet**
- X2-Pin 7 = Binary 2 OFF = 20 dB OFF = **White**

X2-Pin 8 = Binary 2 ON = 20 dB ON - **Black**

The LEDS provide a clear visual indication of functionality during the set up tests.

Apply a ground on JP1 pin 2 and this should cause IC7-pin 4 (and X2-Pin 4) to pulse. Remove the ground from JP1 Pin 2 and this should cause IC7-pin 3 (and X2-Pin 3) to pulse.

Apply a ground on JP1 pin 4 and this should cause IC7-pin 11 (and X2-Pin 8) to pulse. Remove the ground from JP1 Pin 4 and this should cause IC7-pin 10 (and X2-Pin 7) to pulse.

Apply a ground on JP1 pin 6 and this should cause IC8-pin 4 (and X2-Pin 4) to pulse. Remove the ground from JP1 Pin 2 and this should cause IC8-pin 3 (and X2-Pin 3) to pulse.

Test the reset circuit by turning power off and setting the rotary switch to '0 dB attenuation'. Apply power and

confirm that the three OFF LEDs light for approximately 0.6 seconds and then the three ON LEDs should pulse on for 0.1 second then turn off.

Check the RF attenuator is functioning correctly as well by applying power to the individual solenoid(s) and checking the RF attenuation with a signal generator and power meter or spectrum analyser if available.

Finally connect the RF attenuator cable header to the X2 PCB plug pins and do a final check on RF attenuation selection and the rotary switch. With this now completed, spray the copper track side with PCB lacquer to prevent track oxidation and to provide long term humidity protection.

The programmable attenuator and its controller board are ready for installation into that all important radio or test equipment project.

Parts list

PART	VALUE	Device
C1-3,56,11	100 nF	MKT or ceramic 50 WV
C7	100 uF	Electro RB 25V
C8,9	470 uF	Electro RB 25V
C10	10 uF	Electro RB 25V
D1,2,12-18	1N4004	1 A diode
D3-11,18	1N4148	Signal diode
IC1	4584N	or CD40106 Hex Schmidt Inverter
IC2-6	4013M	Dual D Flip/Flop
IC7, 8	4081N	Quad AND
IC9	LM7815	Voltage Regulator
JP1	DIL Strip	Optional; 2X3 (Jaycar HM-3250, part)
Q1-6	BC337	Switching NPN transistor
R1-3, 16	100k	
R4	330k	
R5-8, 17	2k7	
R9-14	5k6	
R15	100	
X1, 2	8 Pin	Molex PCB Male (Jaycar HM-3418)
X3	2 pin	Molex PCB Male (Jaycar HM-3412)
X1, 2	8 Pin	Molex Cable Header (Jaycar HM-3408)
X3	2 pin	Molex Cable Header (Jaycar HM-3402)
misc	Switch	Rotary 1P8P switch
misc	4 * PCB standoffs	
misc	Ribbon cable	
misc	Nuts and bolts	
Test LED Array		
6 * 1k5		
6 * LED		
1		8 Pin Molex Cable Header (Jaycar HM-3408)

5.0 Conclusion

Within a couple of days of receiving my design, Peter VK5ZPG had the first PCB up and running with a HP33321SC attenuator (0 to 70 dB in 10 dB steps) which he used in my previously designed spectrum analyser up-converter.

Soon afterwards, he built a second board, using another attenuator for general test equipment bench use. I would like to thank Peter for assistance in reviewing this article, for his construction tips and the photographs of the operating controller board.

The manual step attenuator controller board (ACB) described in this article enables amateurs to use professional quality, programmable RF step attenuators for use in their own projects operating from DC to microwave frequencies.

The simple CMOS design uses readily available parts, does not require a microprocessor for functionality, has a low RF signature and can be used with most OEM RF attenuator assemblies.

6.0 Components and

References

The parts list for the attenuator controller and sourcing of common parts listed are provided on previous page.

Suppliers are listed as follows:

- eBay USA:
Electrical & Test Equipment Section
- RFPlus: RF Attenuators.
Email: jonwright@gmail.com
Internet: <http://rfplus.jonwright.org/>
- Jaycar: CMOS ICs, metal film resistors, capacitors, regulator ICs, PCB material and Track transfer products. <http://www.jaycar.com.au>
- Altronics: As above:
<http://www.altronics.com.au>

References

1. Agilent Doc No. 5959-7857;
Technical Data Sheet for HP33320,
33321, 33322 and 33323 OEM Step
Attenuators
2. Agilent Doc. No. 08495-90025;
8494/95/96/G/H Attenuators
Operating and Service Manual

Author

Mike O'Ryan VK4YNQ may be contacted via email mikeo24j@bigpond.net.au for clarifications. Copies of the PCB schematic and track file images may also be obtained directly from the author via email request.

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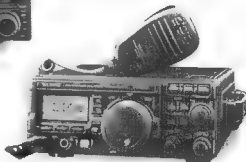
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A simple solution to an expensive problem

John Sutcliffe VK3TCZ

I recently ran into some LDF 4 Heliac cable, and was about to put up a TET-EMTRON beam and several VHF Yagis, so I went about looking for connectors to attach to the cable to use as the main feeders on two runs of about 18 metres.

N type connectors were preferred as they are of constant impedance and waterproof, so I began searching the Internet for such connectors and was shocked to find that they cost around 35 dollars each and, as I wanted four for this project, this would have meant a total of \$140 plus freight.

Apparently these connectors are available second hand from time to time at hamfests for around \$10 each. However this presented several problems as I live in Mildura and getting to hamfests is both time consuming and costly and I wanted to use this coax as soon as possible.

The next best solution was to use some other method and I considered using copper tube attached to standard N connectors to adapt the cable to same.

There were several problems here in that the connection needed to be robust as the fly leads from the mast/rotator would be attached, and the centre conductor on the Heliac is far bigger than usually accepted by RG213 type plugs. I needed to do something else.

I purchased a couple of waterproof diecast boxes at the local electronics store and proceeded to fit the sockets as shown in Photo 1.

The boxes were a little big, but that and bigger was all the store had in stock. I figured I could make them work and my colleague John VK1CJ, whom I talk to every day on 40 metres, said to make the connections short and it should work fine.

The method was to drill and attach the sockets low into the boxes so I

could bring the cables in on their base, and then clamp them securely into place. Each socket is held in place by four three millimetre (1/8 inch) bolts, with solder lugs under the nut on each socket.

On the N socket I ran four connections from the four corners of the socket back to the shield, keeping all connections short, the length of the active wire and connection to the socket pin is about 12 mm (1/2 inch).

The connection to the UHF connector for the HF bands is not so critical and I only have two ground connections. The unit was finished by clamping the cables securely to the base of the box and inserting a copper shield between both sockets, the shield being made from part of an old hot water service. To clean

the copper just leave the copper plate in vinegar overnight.

As the diecast boxes are waterproof if attached through the holes provided, I have drilled and tapped the antenna mast and attached the box to the mast.

I shall finish off by covering all connections with neutral cure silicone when all cables are connected. The other end is under cover so that termination will not need any additional protection. I now have low loss Heliac connections at a reasonable cost.

ar

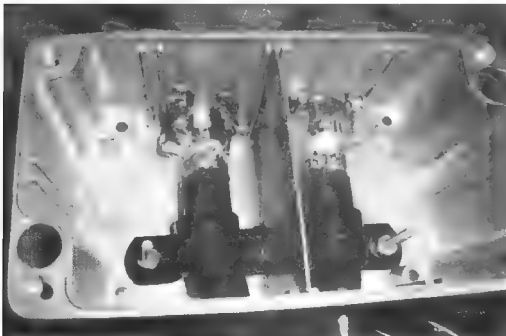


Photo 1: The termination box.

Charging around in the campervan

Richard Cortis VK2XRC

Last year my wife bought herself a little Toyota Hiace campervan which we have put to good use over the last year. However, we have suffered ongoing difficulties with the house battery. The campervan has two batteries, a normal starting battery as fitted by the manufacturer and another battery to run the refrigerator, cabin lights, water pump, amateur radio and those sorts of thing. The two batteries were connected together by a solenoid switch which came on when the ignition went on and disconnected when the ignition went off. There was a current limiting device (circuit breaker) between the house battery and the starting battery to reduce engine starting loads on the deep cycle house battery.

Our problem was that the house battery appeared to have a more significantly reduced discharge capacity than expected. The battery also had a much shorter service life.

We drove the campervan to Perth. Many thanks to those kind amateurs who run the various travellers' nets. In Perth I accidentally left the headlights on for half an hour and the engine would not start, so I replaced the starting battery before heading back to Sydney. However, half way across the Nullarbor Plain, the deep cycle house battery gave up the ghost and, at great expense, a new deep cycle house battery was installed in Port Augusta. After a few days, the performance of the house battery declined significantly. In Sydney, I was able to take a much closer look and discovered that both the starting battery supplied in Perth and the house battery installed in Port Augusta were calcium batteries, which are a much newer technology than the old flooded lead acid type.

I took advice from various parties and decided to deal with the simple and low cost matters first. I was told that there were occasional problems with fusible links and high resistance in cables from the alternator to the battery, so I replaced that cable. I also installed a new cable from the starting battery to the house battery. Because of the possibility of high resistance in the original ancient solenoid switch, I replaced that with a new solenoid switch capable of supplying a starting current if need be. Just in case. I upgraded the ground connection from both batteries.

However, none of these had any

measurable effect. I even paid a fortune to an auto-electrician who told me that I did not have a charging problem.

Then I started to look more closely at the battery characteristics. A traditional flooded lead acid battery can be reasonably charged at about 13.8 volts. The batteries electrolyse less water and perform satisfactorily if they are run at about 13.5 volts. However, the newer technology calcium battery needed to be charged to at least 14.2 volts, I was told. If it was run at between 13.5 volts and 13.8 volts it would slowly discharge. If they do not get the higher voltage during charging, they develop only about half of the rated Amp Hour capacity. I was getting somewhere.

I then took to driving around with a multimeter connected to the battery so that I could observe charging voltages under normal operational circumstances.

This turned out to be quite interesting. I observed that with all accessories, fan, air-conditioning and so on turned off, the battery would come up to 13.8 volts but that it required effort and perseverance. However, driving around with the air-conditioner on gave me 13.5 or 13.6 volts, depending on whether the clutch was in or out. When I turned on the headlights, the voltage went down to about 13.3 volts. At this stage, it became blatantly obvious that the problems with the house battery were related to insufficient charge voltage.

I made some enquiry with auto-electricians regarding upgrading the regulator or, heaven forbid, installing a new alternator. They were not at all keen to play with regulators. The suggestion was to replace the alternator and see what happened. However, at an expected cost "probably between \$700 and \$800" I was

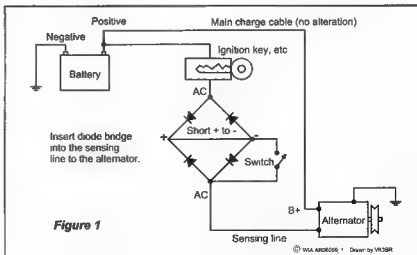


Figure 1: The circuit diagram of the automotive alternator booster.

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disinclined to proceed down that road especially as there was no guaranteed end result.

After this episode, I decided that I had to do something decisive for myself and that it was going to be a low cost approach. There did not appear to be anything physically wrong with the alternator except that the regulator voltage was set too low. I was most disinclined to remove the alternator from the vehicle because, being a diesel, the alternator has a vacuum pump which runs the power brakes and I did not want to risk disturbing that system. So there had to be another approach.

I recalled from other projects that I could use diodes to drop voltage. Perhaps, I thought, I could trick the regulator in the campervan into operating at a higher voltage. So I planned to insert a couple of diodes in the sensing wire from the battery to the alternator. The intent was to let the regulator see a lower voltage which would make it charge at a higher voltage to compensate. Ordinary silicon diodes have a voltage drop between about 0.5 volts and 0.7 volts. I went to my junk box and found a rectifier bridge which I guessed was good for about 15 amps. As the expected exciter current for the alternator was expected to be about 5 amps, I reckoned that the rectifier bridge would be satisfactory. The voltage drop across each of the diodes was about 0.55 volts. At full exciter current without the regulator cutting in and out, I expected to have to dissipate about ten to twelve watts.

Then I had another idea. Since we regularly run the house battery a fair way down, we need to bring it up fairly quickly if we are camping. My wife does not like the engine running in nice quiet camping places. So the idea was to wire the rectifier bridge so that there were two diodes in series in the sensing line.

I then put a switch across one of the diodes so that it could be shorted out, leaving just one diode in the sensing line. This gave me the ability to run the alternator at 13.8 to 14 volts under normal long distance driving conditions or, where necessary, to boost the voltage to 14.2 or a bit above under heavy charging conditions. The switch allows me to switch back to normal charging

voltage after the battery has been charged.

There are a couple of points to consider when planning this sort of modification. Firstly, the type of alternator may determine whether you install the diodes in the sensing line or in the ground cable between the regulator and ground. Also, operation of the charge indicator light on the dash may need some current to flow in the opposite direction. The system is inductive so there may be transient currents in the opposite direction.

For these reasons it is desirable to install a second set of diodes in the opposite direction to avoid such problems. The diode bridge achieves this intent. Wire it up by shorting between the positive and negative terminals with a lead off to the switch. Connect another lead from one or other of the AC input terminals to the switch. Connect the diode system into the sensing line at the AC input terminals. You will see that there is the same voltage drop in each direction, switchable for about one volt or half a volt.

So I decided to have a go with the diodes. With a little bit of assistance from Tony VK2FREL, who is a mechanic, I removed the driver seat, removed the floor beneath the driver seat and exposed the alternator. Tony arrived, identified the sensing line and the diode was installed and running in about twenty minutes. Charging voltage came up and we could switch to normal charge or high charge. We had been successful.

Most of the components come out of stock, so I cannot say what it would have cost but my guess is that it would be under \$20. Had I used this approach in the beginning, I would have saved a fair bit of time, effort and expense, but I would not have had the learning experience. I guess all this is just part of life.

And as a final note, take care when changing from old to new battery technology in old vehicles as the new technology batteries may not perform satisfactorily if the charge voltage is too low.

Checking charge voltage may be misleading if your battery has ceased to be reliable as it may not come up to voltage.

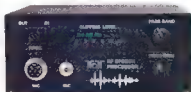
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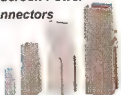
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Amateur Radio Wiki: an introduction

Tim Roberts VK4YEH

The purpose of this article is to acquaint readers with the Amateur Radio Wiki that has been advertised in AR over the last six months or so. It is written as a series of questions and answers, as it is likely that many readers probably do not really have a good idea what a wiki is or how to use one.

What is a wiki?

A wiki is one of a group of applications known as Web 2. Until recently, the internet was a collection of websites that users could browse to get specific information or services. Web 2 applications allow users to contribute to the development of the internet and in the case of a wiki, a website.

More information please!

Wikis are websites that focus on a specific audience, and contain information written, edited and monitored by the very people who use the website. Perhaps the best known wiki is Wikipedia, the online encyclopedia that has overtaken many of the traditional encyclopaedias in terms of popularity and the range of articles available to readers.

Why have a wiki?

It is simple really. By profession I am a teacher of mathematics, and my hobby is amateur radio. I am very much self-taught in electronics, so I look to experts to help me when I have a problem. My students are one step behind me as they do not have the experience that I have, so I and they look to experts to help them. A wiki allows experts to contribute to ham radio for the betterment of the hobby as well as to assist those who need help.

Who can contribute?

Anyone who is prepared to create a user name and password. Readers have unlimited access to the pages of a wiki. Writers must register. At the Amateur Radio Wiki we ask people to register because spammers and vandals have

attempted to disrupt or destroy the site – registration gets rid of morons and ensures that the information is as accurate as possible.

Is the wiki only for VK hams?

Definitely not. Any ham who has information to add is invited – and encouraged – to do so.

Is my personal information kept secret?

Yes. The wiki does not ask for or collect personal information. Many members use fictitious names, and we are very happy when you do.

When I add some information can it be changed?

Yes. The whole idea of a wiki is that information can be added to, edited and

The screenshot shows the Amateur Radio Wiki home page. At the top, there's a user navigation bar for 'TimVK4YEH' with links for 'my talk', 'my preferences', 'my watchlist', 'my contributions', and 'log out'. Below this is a secondary navigation bar with links like 'article', 'discussion', 'edit', 'history', 'unprotect', 'delete', 'move', and 'watch'. The main heading is 'Main Page'. The title of the wiki is 'Amateur Radio Wiki - The Online Encyclopedia for Hams', with an '[edit]' link. A notice states: 'A forum related to this wiki is now available here >. Users will need to register to use the forum. 18th August 2006. Group permissions have been changed to prevent anonymous edits and page creation. Please leave a message in my talk page if this causes any problems. TimVK4YEH'. Below this is a 'General Categories:' section with an '[edit]' link, listing various topics like 'Antennas', 'Awards and Certificates', 'Apparatus', 'Beacons', 'Calculators', 'Classifieds', 'Codes and Alphabets', 'Contesting', 'Callsign Databases', 'Clubs', 'Feeding', 'Feedlines', 'Interfaces', 'Receivers', 'Rotators', 'Towers and Masts', 'Transceivers', 'Tuners', and 'Vintage Radio'. A search box is in the bottom left corner.

Figure 1: Amateur Radio Wiki home page.

Ham Radio's Technical Culture

By Kristen Haring

Publisher: The MIT Press Cambridge, Massachusetts

Reviewer: Justin Giles-Clark VK7TW

Firstly thanks to Richard Rogers VK7RO for lending me the book. Kristen Haring holds degrees in mathematics and a doctorate in science history. Her style is insightful and very readable and there has been an enormous amount of research undertaken to put this work together. This is evident in the extensive notes and reference listing at the back of the book.

The book is a reasonably detailed cultural history of amateur radio in America from the 1920s through to the beginning of the 21st century. Ms Haring provides insightful analysis and comments about what she found from the literature reviews and meetings with amateurs around the US.

The first couple of chapters delve into the definition of a technical hobby and why ham radio is special among so many "technical" hobbies. Personal identification and created identities engaging with the technology in a way that was and is fun, collaborative, educational, intense and creative in a not-for-profit environment seems to be the answer.

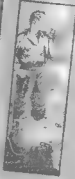
Even from the 1920s there were strict behavioural expectations aligned with regulations. Identities from callsigns, jargon and many social club oriented aspects contributed to the hobby. Many of the traits seen in ham radio were clearly male-oriented, although there are examples where women were included. Up to WWII most equipment was home-built and following the war, it was mainly surplus which the American ham bought and modified. Certain companies, notably GE and RCA, encouraged hams with newsletters

and separate product lines. There was a post-war explosion in the ham population and by the mid to late 1950s homebrewing was back in town along with the transistor. Heathkit and a range of other companies supplied kits bringing the primary focus back to the radio technology.

Chapter four looks at the dawning of the golden age of electronics in 1950s and 1960s where organisations actively recruited and encouraged ham radio operators. There was a realignment of occupation and leisure activities in the light of the Cold-War and space race technology boom. Jobs in the electronics industry exploded in the 1950s seeing 40% of hams in the industry however this decreased to about 2% by the late 1960s. The amateur label provided a certain independence with more in depth practical knowledge and a motivation based solely on a devotion to radio inventiveness and exploratory goals. Another important aspect was the free exchange of information amongst hams, setting them apart from the commercial sector.

Chapter five takes an interesting look at ham radio in the US in the war years and the Cold War era. A reserve force of 5000 licensed amateur radio operators in a time of need was the ARRL catch-cry. This era also consolidated the ARRL's role of promotion, public relations and political lobbying. The Cold War saw the ARRL involved in the formation of the Radio Amateur Civil Emergency Service which provided some redundancy for professional communications systems and provided

Ham Radio's Technical Culture



Kristen Haring

skilled civilian communicators. Ham radio's strength in this area is one of an open international communications service which was seen as dependable and strong.

Ham radio at home and the constant tension with family life is the basis of chapter six. The focus in the post-WWII era was on the technical skills the hobby provided along with the socially-sanctioned escape of the hobby. However, the McCarthy Cold War era even called into question ham radio by associating it with both communism and homosexuality and therefore upsetting political stability. Companies played on the tension at home in advertising and even awarded prizes to "the most understanding wife" in 1953. Marriage was the norm with hams and household budgets were usually stretched due to the hobby. The 1960s and 1970s women's liberation movement saw the apparent relaxing of women's attitudes to the hobby. Space for a shack was usually relegated to the basement or garage which became personal spaces reflecting a ham's broader interests. The ARRL called ham radio a democratic hobby which required careful and diplomatic management in the family setting.

Technological change from the introduction of integrated circuits causing the rise of consumer electronics moved hams from builders to purchasers along with the demise of the kit which

continued next page

The McCarthy Cold War era even called into question ham radio by associating it with both communism and homosexuality and therefore upsetting political stability.

Global Ham Spirit

I would like to share with you and your readers an example of true Ham Spirit spanning the Globe.

Just before Christmas my post office here in Canada lost a shipment of 67 QSL cards on the way to the ARRL DXCC desk. The parcel disappeared without a trace, a real nightmare.

It had taken over 20 years to collect these cards. Some of the cards were for contacts which are very rare and difficult to achieve here in my QTH close to the North Pole.

One of the real treasure cards lost was from VK0TS on Macquarie Island. Trying to find a link to replace the card it became obvious that the QSL information as per my old paper log was no longer valid.

After a long unsuccessful search on the internet I finally contacted Len, VK8DK QSL manager for the VK8 district, a link back to my own operations as VK8PW from Arnhem Land and South Goulburn Island. Len was very helpful and made a few phone calls for me locating Tex VK1TX. Tex searched his QSL box and miraculously found two blank QSL cards from VK0TS.

Tex was willing to send the card to me but needed confirmation that I actually had contacted VK0TS. Well the final breakthrough came via Neil VK6NE, Kevin VK2CE and Mike VK1MJ who

directed me to Phil VK1DX.

Phil was in the possession of the electronic log of VK0TS, however had no QSL cards.

Phil quickly confirmed my QSO details via e-mail screenshot of the proper log page to VK1TX. Tex immediately mailed me the card. This all happened within just a few days thanks to the wonderful world of email and internet. Fortunately everyone involved had email access.

I am very grateful to the wonderful support provided by VK hams and would like to take this opportunity to say many thanks for all the help provided.

It has once again shown that ham spirit surely knows no borders.

73 and hope to catch you all on HF.

Peter VY0PW (Ex VK8PW, Ex VE8PW)

Praise from UK

An old friend VK5YO, visiting the UK from Australia, gave me a copy of *Amateur Radio* for August 2008. I just wanted to say what a wonderful read it has been too.

I enjoyed the articles in your magazine and in particular "A 5 Watt CW Tx" by VK3XU. What I found good about this was how the circuit diagram contained all the essential information e.g. active device pin outs, ferrite rod and toroid winding details, along with expected signal levels at various points in the

project. The write up on construction and testing was a great read too.

As one who has spent 50+ years on the air and 30+ years teaching electronics, I thought this practical approach to a project deserved a little praise.

Roger Wheeler G3MGW

Amateur Radio and Sci Fi

Santa left me a very interesting book this year, called 'A Matter of Destiny', written by N.L. Williams.

No, it is not the solution to antennas and DX, but a mystery Sci-Fi novel about the US National UFO Reporting center (fiction).

So where does Amateur Radio fit it? All the characters in the novel are radio amateurs. How often have you read a novel where the hero/heroine has a 'real' amateur call-sign and is active on two metres?

It makes fun reading when the bands are dead. Check out ISBN978-0-615-17632-1. Oh yes, N.L. Williams is also known as NR4RR in real life.

David Pilley VK2AYD

Silent Key

Stan Sonter VK4HEL

Stan passed away suddenly after arriving at work on Monday morning 10 November 2008, aged 46.

Stan was a loving husband to Karen who provided much support to Stan's hobbies, that is, amateur radio and boating. Stan gained his Novice licence a number of years ago after completing the Novice radio course with the Summerland Amateur Radio Club and was a member of the Summerland club, although residing on their small farm near Jimboomba. Stan was also a member of the WIA since gaining his Novice licence.

Stan had many friends among the amateur radio fraternity. His funeral was held at the Eco Memorial Park, Stapylton, Queensland at 2.00 pm Friday 14 November 2008, with the amateur radio community well represented.

We express our condolences and best wishes to his family and friends.

Submitted by Bruce Smith VK2VA.

Book Review

continued from previous page

moved hams back to their roots with nostalgic older radios. The move to automation and computer technology signalled a decline in the radio hobbyist technical status. Computer hackers replaced hams. CB radio also took its toll on ham radio between 1965 and 1975. However a change of regulations and increased sunspot activity saw Ham radio popularity increase again. Combining radio and computers took the hobby in a new direction and saw hams as early adopters of the internet and this area continues to grow.

Ms Haring concludes that amongst many technical hobbies ham radio is an excellent demonstration of a technical

culture for two distinct reasons:

- 1). Technical identification creating meaning for technology, and
- 2). Perceiving self in relationship to technology.

Many elements of this cultural history have parallels with Australian radio amateurs and their history and this is a very well researched and analysed description that integrates historical events, cultural aspects and the development of radio technology in America.

Well worth a read if you are interested in the history of this great hobby of ours.

ar

Cloudbounce optical communication

Rex Moncur VK7MO and Justin Giles-Clark VK7TW

Distances of up to 209 km have been achieved on cloudbounce propagation with red light (474 THz) using the digital mode JT65a. The success of this work results from a range of innovative developments. Rather than use very narrow beamwidths such as from a laser, we use Luxeon¹ Light Emitting Diodes (LEDs) and comparatively wide beamwidths (2 to 15 degrees) to overcome the problem of alignment on clouds and avoid the high light intensity of lasers. The LEDs are focussed by either small plastic torch type lenses or small plastic Fresnel lenses to give optical gains of 20 to 35 dB. The receivers use a large (400 x 400 mm) plastic Fresnel Lens, to capture as much light as possible, combined with either multiple photo-diodes or a large area Avalanche Photo Diode (APD).

Background

Mike Groth VK7MJ² and Chris Long VK3AML³ have pioneered the use of Luxeon LED transmitters and low noise receivers using Fresnel lenses for line of sight optical communication. On the 19th February 2005 Mike and Chris achieved a distance of 167 km. These techniques were taken further with a lower noise receiver⁴ by Clint Turner KA7OEI to set a line of sight distance record of 278 km between high mountains in Utah USA on October 3, 2007. Yves Garnier F1AVY has achieved a cloudbounce distance of around 50 km using an IR Laser. In late 2006 we started to examine options for non-line-of-sight optical communication and also added the Joe Taylor K1JT WSJT⁵ computer program as a means of bringing the much weaker signals out of the noise.

Optical and electrical signals

An optical receiver produces electrons, or current, in proportion to the amount of light input. This produces the rather surprising result that if you increase the optical power by 3 dB you increase the electrical power by the current squared and thus the signal to noise ratio by 6 dB. To avoid confusion and distinguish between the optical and electrical domains we use the term dBo for optical and dBe for electrical.

Cloudbounce propagation

Providing the cloud layer is large enough to scatter all transmitter power, the optical signal is reduced in accordance



Figure 1: 60 Luxeon LED array with torch lenses.

with inverse square law plus an additional amount that is lost along the path mainly by scattering from air molecules and aerosols. This additional loss is called extinction. Under good conditions the extinction component is around 0.1 dBo/km or around 20 dBo (40 dBe) on a 200 km path. Paul Edwards VK7ZAS has developed a model of the propagation loss⁶ which we have found is reasonably accurate in predicting performance; viz:

$$\text{PR} = \text{PT} - 65 - 20 \log(d) + \text{Gs} + 10 \log(A) - \text{e.d} - 10 \log(\text{ML})$$

Where:

- PR = received power (dBW_o)
- Pt = transmitter power (dBW_o)
- D = distance (km)
- Gs = scatter gain
- A = receiver aperture light collecting area (square metres)
- E = the extinction loss (dB/km)
- ML = the mismatch loss which is the square of the ratio of the RX beamwidth divided by the TX beamwidth.

This equation tells us that the received signal in optical terms is reduced as the



Figure 2: 60 Luxeon LED array with secondary Fresnel Lenses (photo courtesy of A de Quincey VK7NDQ).



Figure 3: 35 PIN Photo-diode array.

square of distance, in proportion to the extinction loss times distance and as a result of the mismatch between the receiver and transmitter beamwidths. The received signal is increased in accordance with transmitter power, the area of the receiver primary lens and a factor G_s called the scatter gain. This scatter gain is due to the same physics as aircraft enhancement and arises because the size of a rain drop at 474 THz is similar in terms of wavelength to that of an aircraft at VHF. From our results the scatter gain⁶ is around 10 dB above isotropic in optical terms giving a very

significant improvement of 20 dBc in electrical signal to noise ratio.

Practical constraints in scattering from clouds

Traditional optical transmitters such as developed by VK7MJ and VK3AML achieve very high optical gains by using beamwidths of less than a degree. Such narrow beamwidths are practical for line of sight work as one can visually align on the transmitter beam. However, in the case of long distance cloudbounce there is nothing visible on which to align. Thus it is necessary to use broader beamwidths

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Figure 4: APD receiver with Fresnel Lens.

and also improve system performance to compensate for the lower optical gain. System performance can be improved by using narrow bandwidth digital modes and also by increasing transmitter power such as by using multiple LED arrays. Fortunately as distance increases the range of elevation angles reduces such that one can work with narrower beamwidths (down to a few degrees)

and in part make up for the extra losses as distance increases.

Transmitters

The transmitters we are using are based on Luxeon III LEDs which give around 0.5 watts optical output that can be electrically modulated to allow the use of very narrow bandwidth digital modes. They are relatively inexpensive

and can be used in banks to increase the power. There are two practical options to produce gain with the Luxeons:

Small plastic torch lenses that give a beamwidth of around 15 degrees and a gain of around 20 dBo or 40 dBe.

Small plastic Fresnel lenses such as are used to assist the sight impaired with reading that produce a beamwidth of a few degrees and a gain of around 35 dBo or 70 dBe.

We have found that the wider beamwidth of option (a) is required at shorter distances, up to a few tens of km and that it works effectively to around 150 km with our best receiver. However, the higher gain of option (b) is required at longer distances with the downsides being that it is much more difficult to achieve correct alignment and the transmitter is far more difficult to construct and its size makes transporting challenging.

Figure 1 shows the 15 degree beamwidth 60 LED transmitter using torch type lenses that has been successfully used up to 165 km. Figure 2 shows the 2.2 degree beamwidth 60 LED transmitter that uses additional Fresnel lenses to increase the optical gain and has been used successfully at 209 km with best signals of -6 dB on the WSJT scale.

Receivers

Our initial approach was to use a single photo-diode with a Fresnel lens as used for the line of sight work by VK7MJ and VK3AML. When using photo-diodes the receiver performance is generally limited by the noise of the pre-amp. Clint Turner KA7OEI's web site⁷ gives a great review of pre-amp developments, leading to his significantly enhanced pre-amp. By changing to the KA7OEI pre-amp we were able to improve system performance by around 14 dBe.

An issue with a small photo-diode and a typical large Fresnel lens is that the receiver beamwidth is very narrow and thus there is excessive mismatch loss. To reduce the mismatch loss we made up a 35 photo-diode array (Figure 3) which produced a further 14 dBe improvement in system performance.

While the noise figure of the KA7OEI circuit is good it still limits system performance to well above external noise. A second receiver was then constructed with an Avalanche Photo Diode (APD). These have significant gain which can

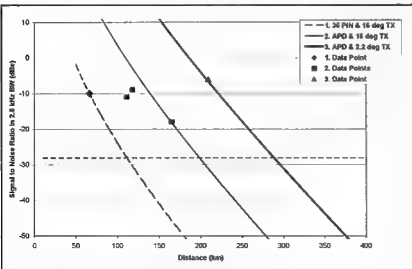


Figure 5: Estimated performance with distance based on inverse square law and an extinction loss of 0.1 dB per km for the three equipment arrangements used in trials.

overcome much of the pre-amp noise. One also needs a large area APD to avoid excessive mismatch loss. The largest units available are 10 x 10 mm but are expensive at around \$1400. Still by using a large area APD receiver (Figure 4), we gained a performance improvement of around 30 dBc compared to the 35 photo-diode array.

Performance with present equipment

Figure 5 sets out the results of trials conducted with the following equipment arrangements:

35 PIN Photo-diode receiver and 15 degree beamwidth transmitter

APD receiver and 15 degree beamwidth transmitter

APD receiver and 2.2 degree beamwidth transmitter

Based on Equation 1 curves are drawn through the best result achieved with each equipment arrangement to give an indication of likely best achievable performance with distance. It is noted that a distance of up to around 300 km might be achievable using JT65a and that this could be extended further with even narrower bandwidth modes such as Jason⁵.

Cautionary notes

Fresnel lenses should be covered when not in use especially before the sun rises in the morning! These lenses have the potential to focus the sun's energy to a point of around 1 mm and can easily start a fire in the wooden box surrounding the instrumentation.

Australian regulations⁶ limit the impact of bright lights on aircraft operations and in particular the targeting of aircraft with high intensity lights such as lasers. While the intensities of our LED transmitters do not approach those of lasers it is still possible to exceed safety limits when operating near an airport. Thus those contemplating the use of high power LED transmitters should consult the regulations and refrain from operating near airports.

APDs run with high reverse bias voltages of up to 400 volts. Caution is required when experimenting with them including adequate insulation and protection especially as these devices are usually operated in the dark!

Conclusions

209 km has been demonstrated on JT65A with more than 20 dBc to spare.

The present equipment should be capable of achieving around 300 km.

The use of Luxeon LEDs, relatively wide beamwidths, low noise receivers and narrow bandwidth digital modes is the key to this success.

Acknowledgments

We acknowledge the help of Paul Edwards VK7ZAS, Mike Groth VK7MJ, Clint Turner KA7OEI, Yves Garnier F1AVY and Chris Long VK3AML who have all been generous with advice and assistance. Also the help of the following amateurs in the various trials: K. Sulman VK7DY, D. Smith VK3HZ, B. Miller VK3BJM, D. Clarke VK3CY, J. Gelston VK7JG and A. de Quincey VK7NDQ.

References:

- 1 Luxeon is a trade name for a Light Emitting Diode with enhanced optical output, which is manufactured by the Philips Lumileds Lighting Company. (<http://www.luxeon.com/>)
- 2 Information on the earlier work of VK7MJ can be found in *Amateur Radio* magazine April 1987 p.12 - 17 and May 1987 p.13 - 17.
- 3 Information on the work of VK7MJ and VK3AML, is at: http://modulatedlight.org/Modulated_Light_DX/MODULATED_LIGHT_DX.html
- 4 An excellent article on the development of low noise receivers by KA7OEI is at: http://modulatedlight.org/optical_comms/optical_rx1.html
- 5 K1JT's WSJT computer program is available at: <http://physics.princeton.edu/pulsar/K1JT/>
- 6 Paul Edwards, VK7ZAS and Rex Moncur, VK7MO "Over the Horizon Optical Communications Part 2" *DUBUS* 1/2009
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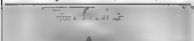
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Reflections on the Ingham flood of 2009

Felix Scerri VK4FUQ

As I write this, it has only been a couple of weeks since the floodwaters here in Ingham have receded, but thinking back over the whole period, it was quite a week or so!

Floods are not that uncommon here but it had been a while since our last major flood locally (2000), and it was about time for another one!

Heavy rain all over the northern area for some time, increased the river heights, when a small category one cyclone called 'Ellie' decided to make landfall north of us late in the evening of Sunday 1 February. A night of torrential rain followed and conditions were set for a major flood in Ingham.

Our local river, the Herbert River, burst its banks late afternoon on Monday and the first floodwaters arrived at this residence around 6 pm on Monday, 2 February. That morning saw a mad flurry of activity in 'preparation' for the flood: all the expected raising of things to above the expected peak flood height, and bringing some things upstairs, and moving family cars to higher ground, and urgent shopping for anticipated supplies. I also fell heavily and damaged my right shoulder badly in the process, but I soldiered on regardless!

My radio antennas received some preparatory attention also and remained operational throughout the flood event, although my home brew three element two metre beam shifted position slightly due to wind and flowing floodwater, but remained operational into our local repeater (in Townsville), and locally where I liaised with local amateur radio operators regularly throughout the flood.

My wire HF antennas continued to function well, despite the (balanced) feedlines being underwater for some distance! Our mains power remained intact along with the telephone service although it got a little noisy at times! It was just as well that we had mains power as, despite moving my solar panels upstairs, there was insufficient sun over the week to maintain good charge into my transceiver battery, and the mains battery charger was pressed into service once or twice in that period!

What made this flood event somewhat

unusual were its two flood peaks, which saw our river again rising to essentially the same flood level, at this QTH, as the first flood peak earlier in the week. Thus Saturday morning was another very busy morning when it became obvious that another flood peak would soon arrive, after more heavy rain overnight.

My family's cars, retrieved after the first flood, had to be returned to high ground before the second flood peak. We were not the only ones. Hi.

It was 'interesting' doing my usual Sunday morning WIA National News broadcast and call-back group on Sunday 8 February from a QTH surrounded by floodwaters! There were a few comments made by the group about 'seafont' property, but muddy river floodwater isn't quite the same thing!

Floodwaters slowly started to recede for the second time by late Monday morning 9 February, and that signalled the beginning of a massive clean-up, something being repeated in practically every household around Ingham and throughout the district. The sight of large mounds of flood damaged items on kerbs was a very common sight in the local area at that time. There was also the matter of very high grass severely discoloured by days of flowing muddy river floodwater to contend with!

In the end, it was interesting contrasting this flood event in Ingham with the horrible bushfires occurring in the southern states and VK3 area. What a land of enormous contrasts and extremes is Australia! Whilst our floods caused significant infrastructure and other damage, it was almost nothing but a big inconvenience compared to the massive and horrible destruction caused by the bushfires.

In due course, after collecting our state government's assistance of a financial payout, I donated the full amount to the official Victorian Bushfire appeal. As they say in the classics, 'Thy need is greater than mine'. Yes that says it all!

MF

RECOM

Australia's quiet achiever in emergency communications

Jim Linton VK3PC

Red Cross Emergency Communications (RECOM) began a decade ago and quietly built up an enviable list of achievements of technology innovation and activations during floods, tropical cyclones and bushfires. Red Cross holds it in very high regard and its operators, all radio amateurs, are proud that the service they deliver is through amateur radio.

RECOM involvement in the summer bushfires in Victoria began with a phone call at midnight on 29 January, eight days ahead of what has been called the Black Saturday disaster of 7 February.

Red Cross Manager of Emergency Services in Victoria Adam Dent advised that relief centres at Mirboo North and Churchill had a number of communication difficulties with lack of fax machines and intermittent power failures, and RECOM was requested to re-establish the links between the two centres and the Red Cross Emergency Operations Centre (EOC) in North Melbourne.

For the next 19 days, RECOM was asked to cover similar situations in Traralgon, Warragul, Healesville, Yarra Glen, Kinglake, Toolangi, Woori Yallock, and at four centres in the municipalities of Cardinia and Casey.

Some of the deployments were short, as once the missing or destroyed communications infrastructure had been repaired the RECOM operators were no longer required.

Other deployments lasted for many days and some required considerable convoy travel to visit outpost registration areas as part of a Red Cross National Registration and Inquiry System (NRIS) field registration team.

When large numbers are involved, RECOM can load software onto other people's computers, and at a relief centre skilled typists can often be found among the volunteers to contribute to the keyboard work.

The Red Cross registered thousands of people on the NRIS during the bushfires. The database is essential; in not only helping relatives and friends locate disaster-affected people, but also for a range of emergency welfare and other needs of government agencies.

RECOM also transmits situation reports and Red Cross personnel deployment information. It can assist other agencies during the response phase of a disaster too.

Over the 19 days, Bruce VK3BMK, Peter VK3AUO, Warren VK3XSW, Donald VK3BPD, Graeme VK3BXG, Rob VK3EK, John VK3BQS, Graham VK3GBJ and John VK3ATQ were involved in the activation. Not all RECOM operators were active; those in other parts of the state unaffected by fire were held in reserve in case there was a local need.

A decade of RECOM

Red Cross Victorian Emergency Services, in responding to incidents and disasters, has a number of parts including registration, catering and first aid and Single Incident. It was heavily involved during the recent bushfires.

RECOM is a stand-alone emergency communications unit intended to serve the needs of Red Cross.

It was born out of the thoughts of a few visionary radio amateurs and Red Cross' Victorian Executive Director, Andrew Hilton, who had the foresight to adopt state-of-the-art technology.

That was in recognition that in Victoria there was a reduced role for traditional amateur radio voice communications than in the past.

Mr Hilton said, "When power and phones are not available, reliable and secure methods of data transmission are vital for emergency management".

"Since its inception, the RECOM team has provided a unique and highly valued service – the contributions provided during numerous natural disasters including the recent bushfires have been outstanding".

Among the lessons learned by emergency services from the 1983 Ash Wednesday bushfire disaster in Victoria was the need to modernise radio communications systems including some inter-operability between them.

At a time when amateur radio digital communications with error correction was being increasingly used, innovation by radio amateurs turned it into a tool to meet the needs of Red Cross for a reliable and efficient means of transferring data.

From its outset RECOM decided that it would not have an elected committee, office-bearers, lines of command and the distractions of the usual organisational structure. It works

well because all members are treated as equals while also having mutual respect for the skills and abilities of others.

It has a quite comprehensive Standard Operating Procedure. Every Thursday evening operators log into a nominated network station and download the latest RECOM news and technical tips on using the system.

Someone who is new to RECOM is mentored with lots of one-on-one tuition – there is a lot to learn.

John Patterson VK3ATQ explained that RECOM has now been operating for over ten years and not once has it used radio voice communications.

'The Australian spirit was clearly evident with ... all doing their best to assist those who had lost so much or very anxious having been displaced from their homes.'

Peter VK3AUO



RECOM operators Peter Carter VK3AUO and Bruce Kidgell VK3BMK spent six days in the heart of the disaster area at Kinglake and Toolangi which had no other communications and no power.

It is the technology edge and amateur radio innovation that delivers the required results. RECOM has developed a complete suite of sophisticated software and hardware suitable for use in Red Cross emergency deployments, whether local or interstate.

Development of efficient lightweight hardware is ongoing. The optimisation of transmission and reception hardware in the area of distortion reduction is also a major priority.

Mr Patterson said, "The core technology is transmission by high frequency radio and it's 100% digital. The system is capable of transferring fully error corrected data at a useful rate when a similar power level voice signal would be totally inaudible".

"We are able to operate when signals are 23 dB below the noise making the likelihood of band conditions prohibiting communications unlikely".

Among each operator's equipment is a transceiver running at least 100 watts, HF modem with special firmware, laptop computer with special software, antenna tuner, generator, various wire antennas and a very efficient mobile antenna set-up.

When stationary, the poor efficiency of standard mobile whip antennas is addressed by adding a five-metre

extension with a capacitive hat.

RECOM units have Iridium satellite data terminals available as backup to their HF radios; however they were not used during the recent fires.

To make the best use of the relatively low-baud rate HF transmission platform, the data is highly compressed using software developed by Donald Patterson VK3BPD.

The data is encrypted to satisfy the legal requirement for confidentiality when transmitting personal details of evacuees, and the encryption key 'rolls' after each transmission interval.

All data is time stamped and stored at the sender's and receiver's end, for later analysis in the event of a Coroner's inquest. Each computer in the field is remotely time-locked to a GPS clock operating at one of the RECOM Network Stations.

Network Stations are able to download message log files or logs of frequency management data, update link messages, and extract any relevant files if the field station is unattended for any reason.

In 2003 during the Bogong forest fires in north-east Victoria, there was a serious problem for RECOM of not knowing where its operators were while travelling in areas of major fire activity.

A system has now been established

RECOM - list of major activations to date

- 2003** Victoria - fires Beechworth, Bright, Miltia Miltia, Eskdale and Omeo (January).
- 2004** Northern Territory - Cyclone Fay (March 3).
- 2005** Northern Territory - Cyclone Ingrid (March 13).
- 2005** Victoria - fires Wilsons Promontory, Barry's Beach (April).
- 2006** Victoria - fires Horsham, Ararat, Whittlesea, Sebastopol, Moe.
- 2006** Northern Territory - Cyclone Monica (April 24).
- 2007** Victoria - fires Bairnsdale, Sale, Traralgon, Bruthen, Swifts Creek, Omeo, Lakes Entrance, Buchan, Orbost, Moyhu (January).
- 2007** Victoria - floods Paynesville, Lakes Entrance, Bairnsdale, Sale (June).
- 2007** Western Australia - Cyclone George (March 8).
- 2008** Queensland - floods Emerald (January 21).
- 2008** Queensland - floods Mackay (February 16).
- 2008** Victoria - fire Elaine (January).
- 2009** Victoria - fires Mirboo North, Churchill, Traralgon, Warragul, WoonYallock, Healesville, Yarra Glen, Kinglake, Toolangi, Cardinia, Casey (January and February).

There were a number of other activations that lasted a day or two.

where all RECOM mobiles are GPS traceable by any station in the network. Having the mapping available while mobile also helps with local navigation when looking for a relief centre or other location.

The operators leave home with their gear running while mobile and on arrival at an assignment usually operate from the vehicle. A small generator is used to float the vehicle battery.

If they need to operate their lap-top within a relief centre this is achieved by a run of RS232 cable or a Class 1 Bluetooth wireless link. The set-up allows them to operate instantly on arrival.

Peter Carter VK3AUO said, "We often operate in the very hot weather that normally goes with bad fire days".

"Keeping out of sunlight is the first requirement, followed by air flow with fans blowing over the equipment is a big help. Some manner of evaporative cooling is also very helpful".

"Computers can be problematic in hot weather. Fast processors like Pentium 4s run hot and in some brands of computers the heat transfer pastes dry out very quickly and are subject to heat stress, slowing down the rate of processing and the introduction of errors."

Currently RECOM has about ten members who are in a position to go



RECOM's Bruce Kidgell VK3BMK operating with the vehicle cabin well covered to reduce the impact of solar radiation.

out into the field at a moment's notice by cancelling other commitments. Other members are equipped to carry out the Network Station duties.

It has earned and enjoys very high regard at Red Cross, while at the same time always proudly letting everyone

know that "it is amateur radio" and radio amateurs providing the service.

A report on the style and success of RECOM will be presented to the 5th Global Amateur Radio Emergency Communications (GAREC) Conference in Tokyo in August this year.

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RECOM volunteers driven by satisfaction

Typical of the RECOM members is Peter Carter VK3AUO who has been involved in fires and floods.

Why do they do it? Peter VK3AUO said, 'It's the satisfaction in providing a voluntary service and there's technical satisfaction in making the system work.'

'Hopefully we are not testing Murphy's Law by saying that we have not failed to deliver the goods.'

RECOM volunteers are radio amateurs and special people who demonstrate an extraordinary commitment to an important job, although each of them is humble when asked about it.

Peter VK3AUO was one of those operating in the field during the recent bushfires. 'We were providing a technical service in the background of other activities occurring at emergency relief centres.'

'These centres have an emotionally charged atmosphere with many people obviously experiencing the most

desperate times of their lives.'

He said while assigned at an emergency relief centre RECOM members attend the community meetings to keep in touch with the latest fire information from the Country Fire Authority and other agencies.

Peter VK3AUO said, 'The Australian spirit was clearly evident with authorities and agencies, and ordinary citizens, all doing their best to assist those who had lost so much or were very anxious having been displaced from their homes.'

'This disaster particularly saw utilities and local government responding very quickly with the restoration of power, clearing of roads, and Telstra offering free mobiles chargeable at normal land-line call rates for bush fire affected people,' Peter noted.

A self-help attitude was evident in fire

affected areas where some people were able to stay rather than evacuate.

He said, 'It was neighbour helping neighbour, and when RECOM members arrived to do their job the residents went out of their way to find a place in their homes for them to sleep the night.'

The small group of RECOM operators each holds an Amateur Radio Advanced Licence, and are special people with a technical information, technology or communications background.

Their commitment is 100% to RECOM to the exclusion of being a volunteer in other emergency services. They attend weekly on-air training and do other preparation to be ready for instant deployment of at least seven days. Currently the group is seeking to recruit another four members.

VK2

Tim Mills VK2ZTM
c/- amews@tpg.com.au

Notes like these have to be written a few weeks ahead of publication and often clubs and groups make changes in the mean time. This happened when reporting on the **Oxley Region ARC** and their meeting arrangements - last month. As reported, the club has returned to meeting at Port Macquarie's SES facilities. Many club members have now joined the SES to assist in communication and similar roles. Training nights with SES are on Wednesday so the Club has moved the Wednesday club net to Tuesday evening at 7.30 pm on repeater 6700. The monthly meeting remains on the first Saturday afternoon at 2 pm and the informal evening gatherings have been reduced to one a month - the fourth Friday at 7 pm. All these meetings occur at the new SES location in Central Road, Port Macquarie. It is now a couple of months [June long weekend] until the annual Oxley Region Field Day - plan to attend now.

Over Easter - the annual **Urunga Convention** at the Senior Citizens hall in Bowra Street, Urunga. Details from Ken VK2DGT 02 6652 3177 or krgolden46@hotmail.com or do a web search on Urunga Radio Convention or check out page 34 in March Amateur Radio.

St. George **ARS** have just had their AGM with Paul VK2EPH giving Brian VK2GCE a well earned rest from being the President. St George ARC meets on the first Wednesday in the 1st Kyle Bay Scout Hall at Connells Point.

NSW WICEN held a special general meeting last month at the Dural VK2WI site. There are several regional AGMs taking place this month. There is Northern Rivers on the 5th. Central Coast have moved theirs from the 11th to the 18th and Hunter Region is on the 21st.

Waverley **ARS** normally have their annual auction mid June. Plans for this year yet to be advised as the hall at their club rooms is in constant use by others.

ANATS - the Australian teleprinter group have an annual worldwide contest mid year. They are seeking a contest

manager to relieve Patricia VK2JPA who wishes to retire from the position.

Liverpool and District ARC have just held a workshop to construct a Flower Pot antenna for 2 metres to a design developed by John VK2ZIO from HADARC. Contact point - Garry VK2BR 02 9896 5763 or vk2tsr@bigpond.com

Taree and District ARC held their AGM last month with all the office bearers from the previous year getting another shift in the same positions. Their April meeting, on the 7th, will be, as usual, at the TAFE College, Montgomery Crescent, Taree. Local area repeaters 6825 and 6675 are linked and used on Monday night for the club net. Repeater 8325 is stand alone. A contact point is via Mark VK2AMS 02 6551 0126 or vk2fre@wia.org.au Mark is also the contact point for local exams.

Ray VK2HAY on behalf of the **Central Coast ARC** thanks everybody who attended the recent Wyong field day for their support. He said in a recent news item ... *We stage this event to help Amateur Radio show-case our hobby. It entails over nine months of hard work before the Day, plus great economic risks ... We would like your comments about the Day and any views or improvements you would like to see at Wyong* contact point for Ray is 02 4325 2182. This year assessments were conducted at the Wyong Field Day. Terry VK2UX advised that the eight candidates were successful on the day, having prepared by undertaking 18 assignments.

Hunter Radio Group conducted their AGM last month. They meet on the second Friday evening at the NBN TV studios, Mosbri Crescent, Newcastle. Contact point is Rodney VK2CN. Their news net - VK2AWX - on Monday at 1930 covers VK1WIA and VK2WI highlights for that week, along with local news.

The **Blue Mountains ARC** have advised they have beacons planned for 2 metres, 70 and 23 cm. Details are to

be found in the beacon portion of the current Callbook and WIA web site. The allocated frequencies are those ending xxx.424 MHz on the respective bands.

The **NSW Division** will conduct their AGM on Saturday April 18 at their VK2WI Dural site. At the close of nominations on the 7th March, the Returning Officer - Peter VK2EMU - advised that 13 candidates had offered for the nine Council positions. The ballot papers and other meeting material are currently being sent to members. The 'shed' had been constructed by early last month. As part of the building will be used as a training centre, this requires additional regulations to be addressed under various building codes and standards. As part of earthworks carried out by Peter VK2JBP with the shed, early this year he turned his talents to reconstructing and sealing the entry driveway to the VK2WI site.

On the last Sunday of the odd months, the **Trash and Treasure morning and Home Brew and Experimenters** afternoon gathering are conducted at the VK2WI Dural site, 63 Quarry Rd. This year's dates are May 31st, July 26th, September 27th and November 29th.

As mentioned last month, ABC TV **Collectors** program is scheduled to carry a segment about Ian VK2ZIO's **Kurrajong Radio Museum**, on Friday the 10th of April, at 8 pm.

The **VK2BWI** operator provided Morse training sessions has lost a valuable contributor when Alan VK2ADB became a SK in late February. The service is being maintained by Ross VK2ER on Thursday at 2000 hours on 3550 kHz. Ross would like to hear from anyone who might like to join the operation. This can be from anywhere in south east VK. Give him a call after the session.

In late February the Sydney VK2RSY 2 metre beacon was restored to service when a new transmitter was commissioned by Station Engineer Mark VK2XOF at the VK2WI Dural site. This purpose built transmitter continues

the service first established in the early 1970s. It is on 144.420 MHz, CW mode, with 20 watts into the existing two bay crossed dipoles, currently on the roof of the VK2WI building. New antennas, yet to be obtained, will be placed on an elevated location at the Dural site. For operational reasons the beacon is off line during the Sunday broadcast periods. Within the first day of its return the beacon produced many reports - extending to Port Macquarie in the north to Wagga in the south. Further reports are most welcome, one submission method is via the news email - arnews@tpg.com.au - with 'beacon report' in the address header. At the same time a new transmitter was placed in service on 6 metres - 50.289 MHz - 20 watts CW to a dipole - to free up a transceiver that had been providing the service. A transmitter for 70 cm - 432.420 MHz - is in the course of construction to restore this service. Later, a new transmitter will also be constructed for 10 metres - 28.262 MHz - as a replacement for the current ageing unit. The 23 cm beacon - 1296.420 MHz - was replaced last year with a 20 watt unit. Updated details of the VK2RSY and VK2RWI systems

appear on the WIA web site for beacons and repeaters

In closing - the find of the month. One of the VK2WI broadcast team travelling up for an evening session was scanning a road side 'Council clean up' when something caught his eye, resulting in a rapid stop and back up. There, on the kerb side was a pre WARC HF transceiver, complete with microphone and other bits. Condition not advised by the finder as I prepared these notes but it would still be something too good for 'landfill'.

VK3

Amateur Radio Victoria News

Jim Linton VK3PC

Website: www.amateurradio.com.au

Email: arv@amateurradio.com.au

Black Saturday Bushfire Disaster

The Council of Amateur Radio Victoria, at its meeting on Tuesday 3 March, unanimously passed this condolence motion in respect to the recent bushfire disaster.

Council extends its deepest sympathies and condolences to those who lost loved ones in the 7 February Black Saturday bushfires.

Everyone has been affected either directly or indirectly by the fires. We recognise the enormous loss, hurt and pain being experienced at the moment and to be felt for many years to come.

Council recognises that this, the darkest moment in peace-time history, the tragic events of the bushfires also brought to the fore the vital work of fire fighters and other emergency service personnel

Council acknowledges that throughout the community there is clearly evident humanity, mateship and caring for others: Those on the front-line of helping, providing aid and comfort; Ordinary citizens and corporations supplying donations.

Council wishes those involved in the disaster recovery efforts all success in their endeavours.

Council sincerely hopes that the Royal

Commission brings down a report on which governments act promptly to avoid a repeat of what happened this summer and mitigate future outbreaks of wildfire.

Repeater report

The VK3RNU repeater at Mt Stanley was destroyed in the fires. The remains have been removed and a new repeater and antenna need to be installed.

Work is programmed for the VK3RML 2m repeater and VK3ROU 70 cm repeater on Mt Dandenong. The restoration of the VK3RWZ Mt William repeater is also being organised.

The VK3RMM 70 cm (D-STAR) voice repeater on Mt Macedon has been upgraded and is now operating at full power. Work continues to get the 2 m D-STAR digital voice repeater and 1.2 GHz D-STAR voice repeater on air.

The German made modules for the digitisation of Melbourne's ATV repeater VK3RTV on Mt Dandenong have been purchased and progress is being made on that staged project which also attracted a \$1,000 grant from the WIA under its club grants scheme.

The new VK3RPS 23 cm repeater at Mt Cottrell is now operational. Its frequencies are 1.27365 GHz and 1.29365 GHz. If you can operate on

23 cm FM and are within range please check it out. Amateur Radio Victoria has spent nearly \$50,000 of member's funds on repeaters and repairs in the past two and a half years.

Five year plan

Council has confirmed Amateur Radio Victoria's continued participation in the annual events of the International Lighthouse and Lightship Weekend (August) and the Jamboree on the Air (October).

It will also support and encourage members to take part in the inaugural VK Shire Contest on 6 and 7 June this year. That contest has the added bonus of providing contacts to qualify for a number of awards including the Victorian Local Government Award.

The Centre Victoria RadioFest will return to Kyneton in the first quarter of 2010. A new date later in the year is also being considered, along with special event stations to mark centenaries.

These are all being discussed as part of a five year plan and member input to this planning process is welcome.

On air standards

The ACMA crack-down on bad apple operators seems to have also resulted in improvements in general on air operating standards

News from...

Since 2006 thought has been given on the need to encourage and give recognition to good operating practice through a set of radio amateur guidelines or a code of practice.

- A draft code contains the following:
 - Recognise that the amateur radio community is made up of a diverse range of people with various backgrounds, abilities and other personal attributes.
 - Support continued harmony within the amateur radio community, putting aside personal feelings and emotions.
 - Encourage newcomers and the less experienced in a way that makes

them feel welcome and supported to personally grow in the hobby.

- Do not knowingly cause interference or engage in any other activity that lessens the enjoyment of amateur radio for others. Do not use amateur radio to offend other radio amateurs or listeners.
- Appreciate the history of amateur radio, from its beginnings when wireless was a scientific oddity through to its existence today in the information technology age.
- Recognise the traditions, operating practice, band plans and other self-regulated measures that achieve orderly participation on the amateur bands.

- And finally, to personally acknowledge that amateur radio is a privilege and not a right.

It remains as a suggested starting point to address those practices in modern day amateur radio that are unacceptable to the majority, or have not kept up with other positive changes in our society including tolerance, harmony and equity of access.

Foundation class

The next weekend training and assessment sessions for the Foundation Licence will be May 23 and 24, at Box Hill North. For inquiries or to enrol contact Barry Robinson VK3JBR 0428 516 001 or foundation@amateurradio.com.au

Geelong Amateur Radio Club – The GARC

Life Membership

Life membership was recently awarded to two long standing club members.

Lee de Vries VK3PK for his contribution to the club which included:

- Over two decades of membership.
- Organising and participation in the running of the Foundation Licence training program.
- Running the microprocessor group.
- His technical input to the GARC's repeaters and beacons.
- Several terms as Club President.

- His active promotion of the club and the hobby of amateur radio in the local community.

Barry Abley VK3SY for his contribution to the club which included:

- Barry's tireless commitment to the prosperity of the club over several decades of membership.
- His past and continuing representation of the club on various external committees, including the East Geelong Recreational Reserve Committee.
- His long standing role as the Club's

Tony Collis VK3JGC

Public Officer following the club's incorporation.

- His active promotion of the club and the hobby of Amateur Radio in the local community.

Both nominations were proposed by Chas VK3PY and seconded by Ken VK3NW.

Victorian Bush Fire Appeal

At a recent barbeque event at the club house in Storrer Street over \$150 was raised by the club members towards the Bush Fire Appeal.

Eastern Zone Amateur Radio Club

Chris Morley VK3CJX

The EZARC committee has been busy over the last month. Not only are we planning for the annual GippsTech conference to occur over the weekend of 11 and 12 July, we have also been contributing to the planning of the WIA AGM weekend of events.

As should by now be clear to all, the GippsTech – Special Event is a one-off event being organised as an attraction to complement the WIA AGM weekend of activities. That program is now full and offers presentations across a broader

range of topics than the traditional VHF, UHF and microwaves focus of the annual event.

The Conference Chair Peter VK3KAI has started to receive offers of presentations for the annual conference in July, but more are needed. Please contact Peter via email (vk3kai@wia.org.au) with your proposed talk topic and requested duration. We will provide more details about the annual GippsTech event as we approach July - keep an eye on the GippsTech section of the club web

site: <http://www.vk3bez.org/>

At its last meeting, several committee members contributed to a presentation on the key controls that one must correctly adjust on your transmitter. The presentation was a stimulus for many questions and some lively discussions.

The committee is currently determining the activities that we will undertake on meeting nights over the coming months. We meet on the first Thursday of the month in Churchill venue details are on the club web site.



Christopher Comolattie VK4VKR

email vk4vkr@wia.org.au qtc@wia.org.au

First things first

In the March edition 2009 of AR I made an error and was promptly advised by the affected party (SCARG). Thank you Ken VK4KD for pointing out the error. I VK4VKR would like to apologise to the following two clubs for the error:

1. The Sunshine Coast Amateur Radio Club Inc.
2. The South Coast Amateur Radio Group.

I submitted incorrect and confusing information regarding the clubs representation, the text should have read:

SCARG

The South Coast Amateur Radio Group consists of about 51 mature and experienced Amateurs. Meetings are held on the first Saturday Quarterly at 51 Castiehill Drive, Nerang at 2:00 pm
And not

SCARG

The Sunshine Coast Amateur Radio Group...

Now Welcome to April Edition of AR

TARC Raffle

The Townsville Amateur Radio Club Inc. are having a raffle - for Her and for Him. Launched by TARC Fund Raising Co-ordinator Ray VK4NET during the Australia Day Weekend Radio

Family Camp, the first raffle by the TARC inc for 2009 is expected to raise interest - both for her AND him. Donated by Mr George Fotinos, mild mannered friendly local pharmacist and principal operator of the Terry White Pharmacy at the Stockland complex at Aitkenvale - the prize package with a total value of well over \$300 consists of men's prestige fine fragrance, women's prestige fine fragrance and 1 box of 6 Royal

Doulton fine glasses. Ray is organising TARC members and friends to sell books of tickets not only to those within the radio amateur fraternity but to the public at large so as to increase the base from which funds can be procured. Tickets are \$1 each, and there are 10 tickets per book. Contact Ray VK4NET to get some books to distribute or sell and see book holders to get your tickets and try to win that prize, for Her AND for Him. Raffle drawn on April 7th 2009. Ray VK4NET is waiting by the phone right now for your call - ring 47 234 351.

WICEN NET

WICEN Queensland holds a net every Sunday on 7075 kHz from 8:30 am (2230 UTC). The net calls in regular stations and then invites new stations to call in. If conditions are poor on 7 MHz, net control then moves to 3600 kHz. Mix it with other WICEN ops and call in on the net.

VK4 continued next page

Regional HF Nets

- Monday Evening - Mackay Club Net**
VK4WIM Net Control - 3597 kHz from 0930 Z
- Tuesday Evening - RADAR Net VK4WIR**
Net Control - 3613 kHz from 0930 Z
- Wednesday Evening - Gold Coast Net**
VK4WIG Net Control - 3605 kHz from 0930 Z
- Thursday Evening - Henry Fulford Memorial Net VK4WAT**
Net Control - 3588 kHz from 0930 Z
- Thursday Evening - Sunshine Coast Net**
VK4WIS Net Control - 3680 kHz from 0930 Z
- Thursday Evening - Hervey Bay Net -**
VK4CHB Net Control - 3615 kHz from 0730 Z
- Friday Evening - Central Highlands Club Net -**
VK4WCH Net Control - 3618 kHz from 1000 Z
- Friday Evening - Lockyer Valley Club Net**
VK4WIL Net Control - 3570 kHz from 0930 Z
- Saturday Evening - Darling Downs Net**
VK4WID Net Control - 3587 kHz from 0930 Z
- Sunday Morning - WICEN QLD Net VK4IQ**
Net Control - 7075 kHz from 2230 Z
- Sunday Evening - North Queensland Net**
VK4WIT Net Control - 3605 kHz from 0930 Z
- Sunday Evening - Dalby and Districts Net**
VK4??? Net Control - 3585 kHz from 1000 Z



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News from...

VK4 continued from previous page

People in Profile

Something new from VK4 is *People in Profile*:

Gordon and Mary Adams VK4GM and VK4PZ of The Caves (approx 25 km north of Rockhampton).

Gordon VK4GM joined The Wireless Institute of Australia on 19th April 1963 (certificate #34) and became an active operator under the call sign of VK4ZGA on 5th April 1967 then received his full call of VK4GM on 8th April 1972 which is still very active today. Gordon has maintained his log books up to date with some 30720 contacts fully logged and documented. Gordon has entered many contests and has a proud "wall of display" including an AJD award (All Japanese District) dated 12th April 1971, a Distinguished Service Award from the WIA and is a Life Member of The Rockhampton and Districts Amateur Radio Club.

Mary VK4PZ obtained her short wave listener's licence (#431) in 1968 and joined the WIA as an associate member.



Gordon and Mary's radio room

BARCFEST 2009

Barcfest 2009 will be held at Mt Gravatt show grounds Logan Rd Mt Gravatt.

Opening time will be 9.30 am on

Saturday 9th May

Admission is \$7.00 per person. Children under 16 free if accompanied by a parent.

For more information contact Les VK4SO
Barcfest organizer ph 0411 729 642

Or email parkerlf@optusnet.com.au

Forms and further information on the club
website <http://www.qsl.net/vk4ba/>

On 21st December 1976 Mary passed the Novice exam and obtained the call sign VK4NAW. Novices were crystal locked on 3.575, 21.200 and 26.760 MHz at that time. Her ambition was to use the six metre band so on 22nd May 1978 Mary obtained her Amateur Operator Limited Certificate of Proficiency (AOLCP) with the call of VK4ZPL. Next was the Morse exam on 21st January 1979 with the new call of VK4PZ which is also still very active today. Mary has also entered many contests, winning the 48 hour VK4 section with 1248 points of the Ross Hull Memorial Contest in 1980-81. Mary has been and still is an active member of ALARA since 1981, has a Distinguished Service Award from the WIA and is a Life Member of The Rockhampton and District Amateur Radio Club.

Many thanks to Gordon and Mary for their story and a fine cup of tea (or two) made from beautiful Queensland rain water.

Do not forget World Amateur Radio Day 18th April.

Until next time 73

VK4VKR (IRLP 6973)

On the side and listening.



The antenna farm



A beautiful view from the back yard

VK5

Adelaide Hills Amateur Radio Society

The AGM was held recently with only one change to the committee. Richard VK5ZNC has taken over the position of Treasurer from Hans VK5YX. John VK5EMI expressed our gratitude to Hans for the sterling service he has given the Society, and welcomed Richard onto the committee.

The President's Award was presented to Barry VK5ZBQ, in his absence that night, and in person at the next committee meeting. He was surprised and pleased to receive the certificate and cheque.

The planned speaker for the night had

to drop out at the last minute but his place was filled by Steve VK5AIM who gave us a very interesting demonstration of a device he has made up to aid anyone needing to test their caravan plug and socket (or even the trailer connections on a semi-trailer!).

Most caravanners have had to make these tests when preparing for a trip. It usually involves at least two people, one to watch that the appropriate lights go on and off when they should while the other one presses the appropriate pedal in the driving cabin.

With Steve's arrangement just one person can do the check on their own.

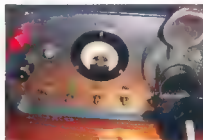
There is a box to plug into the special socket on the tow bar, with a series of lights so the connections inside the plug can be checked. But to make the whole operation a one man job Steve has made up a long cable that allows him to sit in the driver's seat where he can push the appropriate pedals, and to see on the box beside him which lights are on or off and that all is as it should be.

A seemingly simple scheme that is extremely practical. The photos should make it all clear.

Regular meetings on the third Thursday of each month will be held during the year from May. For information about the speakers etc please contact David now VK5KC or Leigh VK5KLT.

Christine Taylor VK5CTY

A number of exams will be held during the year. Information about these, and about the other activities of the Society can be found on our (new look) website.



The box with lights to indicate each part of the car or truck's lights



The hand held section (to use while in the cabin, pressing the pedals)



The trailer plug and the hand display



The plug and the display unit



Steve VK5AIM with the device

News from...

South Coast Amateur Radio Club

2009 Summer VHF-UHF Field Day, February 2009 - VK5ARC/Portable

After Christmas and with the start of the New Year, there are a few of the members who always know what it means: It is the 'Summer VHF-UHF Field Day', and who is interested in getting the station operational? The usual culprits are always ready to volunteer as operators for the event - Barry VK5KBJ, Stef VK5HSX and past-member and always a welcome participant, Andy VK5LA.

VK5ARC/P operation takes place from Loud's Hill, about 50 km south of Adelaide above the town of Willunga, and is a perfect mix of isolation from suburban noise and elevation from the surrounding terrain, with panoramic views in almost every direction. The

owner of the property, Barry VK5KBJ, makes his hobby farm available for VK5ARC to use in contests and Field Days. At 300 m ASL, Loud's Hill is a great operating position, particularly for VHF/UHF contests. The exposed location, however, means that in January, conditions can vary from calm to howling winds, freezing cold to very hot, all in a 24 hour contest period. Participants need to be prepared for anything!

We began early Saturday morning, which was a slight change as we are often still setting up when 0100 UTC arrives. As a pleasant change we had the station set up, and had time for a drink, prior to getting stuck into the 24 hours ahead of us.

The contest began with pre-checks making sure preferred frequencies were not in use. With laptops going, headphones on and microphones in hand we began with the good old words 'CQ Contest, CQ Contest!' with a slight pause for replies to come back to us. We had three stations operating at once, covering all the bands from 6 m to 23 cm. This was also a perfect opportunity to test out the club's new satellite transceiver purchased not long beforehand. Andy VK5LA had a few plays with the rig to get some sort of 'on the job' training before operating the rig in the contest, working the 2 m and 70 cm sideband. We had Stef VK5HSX operating 6 m, using an Icom IC-706MKIIG connected to a multi-band dipole that tuned fairly well to the required frequencies. We had to forego the 6 m 8 element ATN Yagi previously used, due to storm damage last year. Barry was taking care of 23

cm, which became a valuable collection of points, scoring numerous contacts on a handheld connected to an omni antenna.

The afternoon on Saturday saw the path to VK3 open up, where we managed to work some stations on both 2 m and 70 cm. Sunday morning conditions were superb with many stations in south eastern Australia and Tasmania contacting many new grid-squares. VK5ARC/P made contacts to VK6 on 2 m and 70 cm. There was chatter about conditions, stating that it has been quite a while since this sort of thing happened for the Field Day.

All up, we managed to work 16 grid squares on 2 m, 11 squares on 70 cm and 2 squares on 23 cm. Station operators had an absolute ball, with the usual slowing down between midnight and just before sunrise. This allowed some time to get some shut-eye, just before the last few hours of the contest.

Thanks to all the stations who returned contacts, which provided points and making the whole effort worthwhile. Thank you to our members who came on air and gave as many contacts as they could possibly provide. It was much appreciated and perhaps some members may consider becoming involved with contesting in the near future.

The final tally for our station VK5ARC/P, compiled by Barry VK5KBJ, was as in the Scoring Table below.

Regards from Stef VK5HSX on behalf of Barry VK5KBJ and Andrew VK5LA.

Scoring Table

Band	Locators Activated	Locators Worked	QSOs made	Band Multiplier	Total
	10 points each	10 points each	1 point each		
50 MHz	1	7	47	1	127
144 MHz	1	16	129	3	897
432 MHz	1	11	80	5	1000
1296 MHz	1	2	11	8	328
FINAL TOTAL					2352

Score [(Locators activated + Locators worked) x 10 + (QSOs made) x Band multiplier]

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Timers Club
of Australia**
as an associate member

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PO Box 107,
Mentone, VIC., 3194
or call Derek VK3XY on 03 9563 6909
or Bill VK3BR on 03 9584 9512.

More details and membership application forms are available from our web site:

<http://www.raotc.org.au>

Stef Daniels VK5HSX

VK6

Keith Bainbridge VK6XH

Welcome to this month's offering from VK6

Firstly I must apologise for the brevity of this column. My usual monthly request fell on deaf ears and I have not received a single report from around the State.

It is with great sadness I must report the passing of Jack VK6JZ (formerly VK6AJZ). I have known Jack for many years, and have always been amazed at his ability to overcome his visual disability, his enthusiasm, and above all his attitude to life, one of life's true gentlemen. I will miss his comments and organisation of the net on 40 metres while I am driving around the state for work. Shalom old friend.

The contest season is well and truly upon us and I know some VK6 groups have been giving the John Moyle a thrashing this year. As a member of the NCRG we regularly took part in the JMFD but we were always disappointed with the lack of support from amateurs in our own state in the VHF section.

We always tried to get at least 50 km from Perth to maximise the points but there were very few amateurs to contact. Not like the RD contest where the turn out is amazing. Perhaps in future JMFDs locals will try to support the groups, such as the Hills Group and the Peel group, in their contest efforts. The NCRG members decided to give the JMFD contest away and to concentrate on the

CQ WPX SSB contest for 48 hours the following weekend.

The VK6 - ZS beacon project is moving along nicely with assistance from Justin G0KSC. He has been working on an interesting approach to VHF Yagi design and has burned a lot of midnight oil coming up with a design for the four seven-element two metre Yagis that will be vertically stacked and horizontally polarised. His website has some really good designs for six metres and up, well worth a look! <http://www.g0ksc.co.uk/>

The PC has been procured and the WSJT software installed ready for testing to take place from my home QTH. The testing will use 25 watts from a Ten Tec 6N2 transceiver, and a seven element vertically polarised beam pointing towards Albany, so all reports will be appreciated. The NTAC (National Technical Advisory Committee) is considering the allocation of the final frequency to be used, until then all tests will be on 144.490 MHz and only while I am in the shack (which is a lot these days). There are a lot of enthusiastic ZS and FR amateurs keen to listen for it.

Hopefully VK6RJO (Indian Ocean) will be on the air before the summer season gets under way again. Wally VK6KZ is scheduled to give a lecture on beacons at the March meeting of the NCRG, to assist the club membership in understanding the very different needs

of beacon operation as compared to the repeaters, and the 10 metre beacon the club already runs.

This email from the President of the HARG Mick VK6YXL arrived telling of news in the Hills Group!

Hold the front page! The members of the Hills Group are as busy as ever planning a new tower and antenna system and preparing to assemble this exciting new station in the next few weeks. There has been a surge in membership, mainly from new Foundation licensees who are keen to assist in rebuilding the club, and this shows the hobby is picking up momentum in WA.

There was a tremendous effort put in by members in the planning and execution of our swap meet day on 14 March, which was a huge success. We had a fantastic day and I would like to pass on my thanks and congratulations to those who assisted, those who donated and to all those who attended.

73 Mick VK6YXL, President HARG.

Thanks Mick. I was beginning to think the state had gone to sleep this month!

I will take this chance to remind you of this year's Hamfest, to be as always at the Cyril Jackson Recreation Centre, Fisher St Ashfield on Sunday 2 August at 9 am for buyers. Keep it in your diary because it is too good to miss!

With that I will wish all of you very 73 and hopefully I will have a little more input for next month's column.

Silent Key

William (Bill) Douglas Christie VK6NWD

Bill passed away on November 4, 2008 following a short illness, aged 67. He was an active amateur, relaying the WIA National and VK6 News on Sunday mornings on 80 metres from his QTH in Yarloop, for several years and right up to his time of passing. He was on the air every morning and afternoon with a group of amateurs providing his usual weather report and a welcoming chat. WICEN WA will miss Bill since he was an active participant for several years.

Bill was born in Werribee, Victoria and, with the family, shifted to Adelaide

at an early age and it was here that he developed an interest in radio, building a lot of his own equipment. He joined the then PMG's Department as a technician but later transferred to postal services, subsequently moving to Ceduna. It was here that Bill commenced his involvement with community service which continued on throughout his life serving with volunteer fire services, Apex and other local organisations.

Whilst in Ceduna, Bill met his wife Val and family started to arrive.

Bill served the PMG in Maralinga

and Woomera and then shifted to WA working in Trayning, Dalwallinu and Marble Bar. During 1970 the family relocated to Kalamunda and he left the Post Office to join Millars Timber Company working locally and then at the Palgarup and Yarloop Mills until his retirement.

His dedication to community service still continued until his death.

Bill leaves behind wife Val, three sons, a daughter and their families.

Valé Bill Chrstie

Submitted by Rob VK6PO.

VK7

Justin Giles-Clark, VK7TW

Email: vk7tw@wia.org.au

Regional Web Site: reast.asn.au

Repeaters and Beacons

Joe VK7JG has tracked down some of the interference issues with the VK7REC Snow Hill repeater on the east coast of VK7 and has fitted it with a 123 Hz CTCSS access subtone. This has reduced the intermittent triggering and further investigation of the cause is being undertaken. A new 10 m beacon has been commissioned by Hayden VK7HAY. Callsign is VK7RSC, frequency is 28.267 MHz, power is 10 watts, vertical polarisation and the location is listed as Lucaston in the Huon Valley. As those sunspots increase listen out for VK7RSC.

Broadcast Thank You

A big thank you to Jim VK7JH who let me know that after 20 years of doing broadcasts it was time to give it a rest and in Jim's words – "I have decided that there are too many other things I should be doing on Sunday mornings". Jim comments that things have certainly progressed – 20 years ago it was cassette tapes and unreliable RF links! We wish you best wishes and good luck for the future.

North West Tasmanian Amateur Radio Interest Group

The regular coffee mornings have started

again and are moving along the NW coast. XYLs and families are encouraged to come along – stay tuned to the VK7 Regional News broadcast for news of the next one. It is a great place to meet up with old pals and the newer members of amateur radio. The Valentine's Day BBQ at Hiscutt Park was a great social occasion with good food and company.

Northern Tasmanian Amateur Radio Club

February 11 was NTARC's AGM and Executive Office holders for 2009 are: President – Allen VK7AN, Vice-President – Bill VK7MX, Secretary – Jason VK7ZJA, Treasurer – Ann VK7FYBG. Phil VK7JJ gave a talk on his HF squid pole multi-band vertical and the club organised an order for 30 which would have been accounted for by the time this goes to print. The poles extend to 9 metres and cover 80, 40, 20, 30 and 15 m. VK7 HF portable operation has never been better equipped!

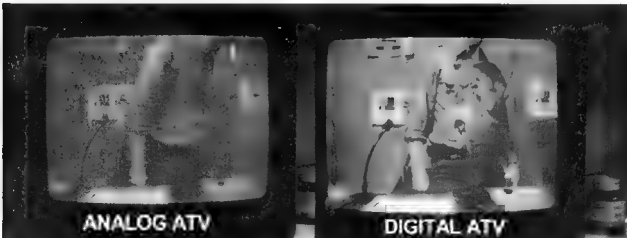
Radio and Electronics Association of Southern Tasmania

Congratulations to Corey Clark and Robert Wise who were both successful in gaining their Foundation licences

and also Gary Wilmott, Tony Clifford currently VK7FACC and Ron Petersen who is currently VK7FEAA who gained their Standard licences in the February assessment session. We look forward to hearing you on the air sporting your new callsigns.

The ATV experimenters' nights have been a roaring success and we have been playing 23 cm Digital ATV thanks to Jack VK2TRF who has lent us a 23 cm DVB-S encoder/exciter. Comparison between our normal 70 cm analog ATV signal and the 23 cm Digital can best be described as "chalk and cheese". Hi Hi. We are undertaking field strength/error rate tests over the next few months around Hobart. If you would like to be involved then we have tuned digital satellite receivers ready for loan. Thanks to Peter VK3PB and the crew from AmateurLogic.TV who produce a great free amateur radio program which is distributed via the Internet. Our ATV viewers have enjoyed these programs over the last year.

ar



70 cm Analog ATV versus 23 cm Digital ATV – Same location, similar antennas & transmitter powers (pictures from Tom VK77TL)

Annual General Meeting

Do not forget the AGM on the first Monday of May on or about 3.580 starting at 1000 UTC. We usually have a good roll up for the AGM; do not let this year be different.

Please listen out for those ZL girls who usually join us, if you hear a call no-one else is hearing, please help to include them in the meeting by acting as a relay.

The terrible bushfires in VK3

As far as the committee has heard, none of our members lost their lives but many were affected by the fires.

As ever the decision has to be made in the event of a bushfire, to stay and fight the fire or to evacuate to a place of safety. Whatever you decide, there is no guarantee that your house will survive when the fires have the intensity these did.

Probably all of us had phone calls or radio calls to ascertain our own safety. The TV stations all round the world carried images of the flames not always with accurate information about location (but would we be any more accurate if we were reporting about an event in a country so far away?).

Australia has always had and will always have bushfires but the enormity of these was different. For the people concerned the fact that their towns had escaped previous fires must have made it even harder to believe when they were told it was time to leave.

We should all be proud, also, that our small (in population) country has raised such an enormous amount of money to help those in such need.

And yes, we should be proud, too, of the amateurs who manned emergency stations and helped so many to find lost members of their families.

The regular luncheons

Firstly a small correction: The VK3 luncheons are held on alternate months, not every month, although irregular morning teas and participation in

hamfests have become an important part of the scene in that state.

In VK5 the luncheons have taken on a new aspect with enthusiastic exchanges of ideas about "things we could do or places could go to" for the YL International 2012. It is all a long way ahead but if you think you are interested in participating, or if you have any ideas to contribute, please get in touch with Tina VK5TMC or visit the – as yet primitive – website she has set up. Go to www.ylinternational2012.110mb.com and see what is there.

If there is not yet, there will be a link to the site from the ALARA website, in time.

SYLRA Meet in September 2009

SYLRA the Scandinavian Young Ladies Radio Amateurs is holding a mini-international Meet in Oslo on 3rd to 7th September 2009. If you are interested in joining them put SYLRA into Google and follow the prompts. Oslo is to be followed by an expedition to Svaalbaad that might interest you, as well.

More later.

A Silent Key

ALARA heard recently that the OM of Kirsti VK9NL has become a Silent Key. Many of the amateurs who have visited

Norfolk Island over the years will have met both Kirsti and her OM.

We send our sincere condolences to Kirsti.

As far as ALARA is concerned Kirsti has helped to publicise our small part in the world of amateur radio with articles in the various magazines, over many years.

EchoLink

If you have just got EchoLink up and running and want to talk to other YLs, get in touch with Shirley VK5JSH. She has all the nets at her fingertips. There are nets in the early morning, there are nets in the afternoons and there are now many YLs in England, Canada and New Zealand, as well as from here in Australia, who have become regulars.

It is a different way to enjoy a privilege you have earned by passing your amateur radio certificates. Only amateurs can use EchoLink and to prove that you are an amateur you have to produce your Certificate of Proficiency.

There are some who are critical of EchoLink because you do not have to strain your ears to hear the stations through the static, but in many ways it is only another way to enjoy the hobby, like packet radio or meteor scatter. Enjoy!

ar

GippstTech

Special Edition

The 2009 WIA AGM Weekend of Activities

This event brings together some of the finest speakers from GippstTech conferences to this special one-off AGM weekend event. Members who register for the event will be able to participate in a wide range of fascinating and highly informative radio related technical presentations by some of Australia's leading technical presenters

For more details: see inside back cover

OR

For full details and to book online, go to:

<http://www.wia.org.au/joinwia/wia/gippsttech2009/>

WIA
• 000000000
03 9729 0400

Gridsquare Standings at 14 February 2009

Guy Fletcher VK2KU

144 MHz Terrestrial

VK2FLR	Mika	113
VK3NX	Charlie	106
VK2KL	Guy	102
VK3KAJ	Peter	87
VK3HZ	David	85
VK2ZAB	Gordon	78 SSB
VK2DZV	Ross	75 SSB
VK2ZT	Steve	75 SSB
VK5AKK	Phil	75 SSB
VK3PY	Chas	72 SSB
VK3CY	Des	71
VK2EI	Nail	63
VK7MO	Rax	63
VK2TK	John	62
VK3QM	David	62 SSB
VK3BU	Barry	61 SSB
VK3BDL	Mike	60 SSB
VK3KAJ	Peter	54 SSB
VK3WRE	Ralph	54 SSB
VK3ZLS	Lee	51 SSB
VK5BC	Brian	48 SSB
VK4CDI	Phil	47
VK3CAT	Tony	46
VK3VG	Trevor	46 SSB
VK7MO	Rax	45 SSB
VK2AMS	Mark	44 SSB
VK3I	Jim	43
VK4CDI	Phil	43 SSB
VK4KZR	Rod	43
VK7MO	Rax	43 Digi
VK3I	Jim	42 SSB
VK58Cp	Brian	42 SSB
VK3KAJ	Peter	36 Digi
VK4TJ	John	36 SSB
VK2TK	John	35 SSB
VK2KL	Bob	34 SSB
VK3DMW	Ken	34
VK3EJ	Gordon	33 SSB
VK3ZUX	Denis	33 SSB
VK8HK	Dor	33
VK2TG	Bob	32 SSB
VK3VHF	Rhett	29 SSB
VK1WJ	Waldie	27
VK2EAH	Andy	27
VK2TK	John	27 Digi
ZL3TY	Bob	24
VK3TLW	Mark	23 SSB
VK4EME	Alan	23
VK1WJ	Waldie	22 Digi
VK3BG	Ed	22 SSB
VK3ECH	Rob	20 SSB
VK4CD	Phil	20 Digi
VK8KZ	Wally	20
VK4EME	Alan	19 SSB
VK3AL	Alan	18 SSB
VK3I	Jim	18 Digi
VK3UDX	Geoff	17 SSB
VK2EAH	Andy	16 SSB
VK8KZp	Wally	16
VK3VHF	Rhett	12 Digi
VK4EME	Alan	12 Digi
VK2EAH	Andy	11 Digi
VK2EI	Nail	11 Digi
VK2KOL	Colin	9 Digi
VK2ZT	Steve	7 Digi
VK1WJ	Waldie	6 SSB
VK8DXI	Mirek	6
VK8HK	Dor	6 Digi
VK1WJ	Waldie	5 CW
VK4IG	Denis	5 SSB
VK4JAZ	Grant	3 FM
VK3QM	David	1 Digi

144 MHz EME

VK2KL	Guy	317
VK2KU	Guy	302 Digi
ZL3TY	Bob	300
VK3AXH	Ian	233 Digi
VK4CDI	Phil	160 Digi
VK7MO	Rax	155 Digi
VK2FLR	Mika	120
VK3CY	Des	70 CW
VK2AND	David	65 Digi
VK2KU	Guy	43 CW
VK3DDU	Paul	39 Digi

VK2ZT	Steve	28 Digi
VK3VHF	Rhett	20 Digi
VK3HZ	David	19
VK3I	Jim	10 Digi
VK3NX	Charlie	5
VK4EME	Alan	5 Digi
VK3AUX	Ian	3 CW
VK2DZV	Ross	2 CW
VK3AUX	Ian	1 SSB

432 MHz Terrestrial

VK2ZAB	Gordon	57 SSB
VK3NX	Charlie	50
VK3PY	Chas	50 SSB
VK3QM	David	48 SSB
VK3ZLS	Lee	40 SSB
VK2KU	Guy	38
VK3BM	Barry	38 SSB
VK3HZ	David	36
VK5AKK	Phil	36 SSB
VK2DZV	Ross	34 SSB
VK3BDL	Mike	32 SSB
VK3CY	Des	32
VK3WRE	Ralph	32 SSB
VK2ZT	Steve	30 SSB
VK3KAJ	Peter	30
VK3KAJ	Peter	20 SSB
VK5BC	Brian	25 SSB
VK3VG	Trevor	20 SSB
VK7MO	Rax	20
VK3UDX	Geoff	19 SSB
VK2TK	John	18
VK7MO	Rax	18 SSB
VK2TK	John	17 SSB
VK3CAT	Tony	16
VK3BDL	Brian	16 SSB
VK2AMS	Mark	15 SSB
VK3BG	Ed	15 SSB
VK3TLW	Mark	15 SSB
VK3ZUX	Denis	15 SSB
VK4KZR	Rod	15
VK4CDI	Phil	14
VK4CDI	Phil	14 SSB
VK8KZ	Wally	13
VK2EI	Nail	12 SSB
VK2KOL	Colin	12 SSB
VK2TG	Bob	10 SSB
VK3AL	Alan	10 SSB
VK3ECH	Rob	10 SSB
VK4TJ	John	8 SSB
VK6KZp	Wally	8
VK7MO	Rax	7 Digi
VK2FLR	Mika	6
VK3DMW	Ken	6
VK4EME	Alan	6 SSB
VK6DXI	Mirek	6
VK1WJ	Waldie	4 SSB
VK2EAH	Andy	4 SSB
VK3KAJ	Peter	4 Digi
VK3PY	Chas	4 Digi
VK3QM	David	4 Digi
VK4CDI	Phil	3 Digi
VK3VHF	Rhett	3 Digi
VK4AIG	Denis	3 SSB
VK4JAZ	Grant	3 FM
VK2KOL	Colin	1 Digi
VK2TK	John	1 Digi
VK2ZT	Steve	1 Digi

432 MHz EME

VK4KAZ	Alan	14 CW
VK4CDI	Phil	13 Digi
VK7MO	Rax	10
VK7MO	Rax	9 Digi
VK3NX	Charlie	5
VK3HZ	David	4
VK2ZT	Steve	1 Digi
VK3AXH	Ian	1 Digi
VK3VHF	Rhett	1 Digi
VK5BC	Brian	1

1296 MHz Terrestrial

VK3PY	Chas	39 SSB
VK3QM	David	39 SSB
VK3NX	Charlie	37
VK2ZAB	Gordon	29 SSB

VK3ZLS	Lee	28 SSB
VK2KU	Guy	25
VK2DZV	Ross	23 SSB
VK5AKK	Phil	21 SSB
VK3KAJ	Peter	20
VK3BM	Barry	19 SSB
VK3KAJ	Peter	19 SSB
VK3OWA	John	19
VK3BDL	Mike	17 SSB
VK3HZ	David	17
VK3WRE	Ralph	17 SSB
VK3VG	Trevor	12 SSB
VK3RZ	Rod	12
VK2ZT	Steve	11 SSB
VK3BG	Ed	11 SSB
VK7MO	Rax	11 SSB
VK2TK	John	10 SSB
VK3UDX	Geoff	10 SSB
VK3TLW	Mark	8 SSB
VK3AL	Alan	7 SSB
VK3DMW	Ken	7
VK3ECH	Rob	6 SSB
VK3VHF	Rhett	5 SSB
VK3ZUX	Denis	5 SSB
VK4TJ	John	5 SSB
VK5BC	Brian	5 SSB
VK8KZp	Wally	5
VK2AMS	Mark	4 SSB
VK4CDI	Phil	4
VK8KZ	Wally	4
VK4CDI	Phil	3 SSB
VK4EME	Alan	3 SSB
VK58Cp	Brian	3 SSB
VK6DXI	Mirek	3
VK7MO	Rax	3 Digi
VK2FLR	Mika	2
VK3CY	Des	2
VK3KAJ	Peter	2 Digi
VK3QM	David	2 Digi
VK4IG	Denis	2 SSB
VK4CDI	Phil	1 Digi
ZL3TY	Bob	1 SSB

1296 MHz EME

VK3NX	Charlie	29
VK7MO	Rax	27
VK7MO	Rax	24 Digi
VK3NX	Charlie	15
VK3PY	Chas	15 SSB
VK3QM	David	15 SSB
VK3WRE	Ralph	11 SSB
VK3KAJ	Peter	7 SSB
VK3HZ	David	5
VK4KZ	Rod	4
VK8KZ	Wally	4
VK3BM	Barry	3 SSB
VK3KAJ	Peter	2 Digi
VK3VHF	Rhett	2 SSB
VK2AMS	Mark	1 SSB
VK2DZV	Ross	1 SSB
VK2EI	Nail	1 SSB

Additions, updates and requests for the guidelines to Guy VK2KU.

The guidelines (and the latest League Table) are also available on the VK VHF DX Site at www.vhfdx.radiocorner.net - click on Gridsquares.

Next update of this table will close on or about 5 June 2009.

Stations who do not confirm their status for more than 12 months may be dropped from the table.

VK3BG	Ed	1 SSB
VK3TLW	Mark	1 SSB
VK3ZUX	Denis	1 SSB

2.4 GHz EME

VK3NX	Charlie	28
VK7MO	Rax	9
VK7MO	Rax	7 Digi

3.4 GHz Terrestrial

VK3NX	Charlie	12
VK3QM	David	12 SSB
VK3WRE	Ralph	8 SSB
VK3KAJ	Peter	8 SSB
VK8KZ	Wally	4

3.4 GHz EME

VK3NX	Charlie	11
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5.7 GHz Terrestrial

VK3NX	Charlie	12
VK3QM	David	10 SSB
VK3WRE	Ralph	9 SSB
VK3KAJ	Peter	7 SSB
VK8KZ	Wally	4
VK3BM	Barry	2 SSB
VK3KAJ	Peter	2 Digi
VK8HT	Nail	2 SSB
VK3ZUX	Denis	1 SSB

5.7 GHz EME

VK3NX	Charlie	11
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10 GHz Terrestrial

VK3NX	Charlie	12
VK3PY	Chas	12 SSB
VK3QM	David	12 SSB
VK3KAJ	Peter	9 SSB
VK3WRE	Ralph	9 SSB
VK8HT	Nail	9 SSB
VK3HZ	David	7
VK8KZ	Wally	5
VK3TLW	Mark	3 SSB
VK2EI	Nail	2 SSB
VK3BM	Barry	2 SSB
VK3DMW	Ken	2
VK3ZUX	Denis	2 SSB
VK4KZR	Rod	2
VK7MO	Rax	2
VK3BG	Ed	1 SSB

10 GHz EME

VK3NX	Charlie	13
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24 GHz

VK8HT	Nail	3 SSB
VK2EI	Nail	2 SSB
VK3NX	Charlie	2
VK8KZ	Wally	2

474 Thz

VK3HZ	David	2
VK7MO	Rax	2
VK7MO	Rax	2 Digi
VK7TW	Justin	2
VK7THA	Ben	1 Digi
VK7TW	Justin	1 Digi

Contest Calendar for April 2009 – June 2009

April	4/5	SP DX Contest	CW/SSB
	4	QRP Hours Contest	CW/SSB
	4/5	EA WW RTTY Contest	RTTY
	11/12	Japan International DX Contest	CW
	11/12	Yuri Gagarin International Contest	CW
	18	Holy Land DX Contest	CW/SSB
	18	TARA Skirmish Digital Prefix Contest	PSK
	18/19	YU DX Contest	CW/SSB
	18	Harry Angel Memorial Sprint	CW/SSB
	25/26	Helvetia Contest	CW/SSB
May	25/26	SP DX RTTY Contest	RTTY
	9/10	CQ-M International DX Contest	CW/SSB
	9	VK/Trans-Tasman 80 metres Phone Contest	SSB
	18/17	King of Spain Contest	CW
	30/31	CQ WW WPX Contest	CW
June	6/7	IARU Region 1 Field Day	CW
	6/7	VK Shires Contest – Rules next month	All
	13	Asia / Pacific Sprint	SSB
	13	VK/Trans-Tasman 160 metres Phone Contest	SSB
	20/21	All Asia DX	CW
	27/28	King of Spain Contest	SSB
	27/28	Marconi Memorial Contest	CW
	27/28	ARRL Field Day	All

Welcome to this month's Contest Column.

Did you support the VK Team in the 71st Commonwealth Contest?

Well, I tried to, but preparations for WPX rather got in the way with lots of time spent messing about with making the station ready and not enough time actually using it. I wanted, and have wanted for some time now, to compete for a position within the VK Team. Alas, once again this was not to be, as antenna hardware does not leap out of the box and up into the air all by itself, as assistance is required to get it into a position where it can do some good. All I needed was something for HF as LF was already taken care of by existing systems, but I couldn't get the cunning plan to the finishing post unfortunately.

Asking around, it seems that the bands were lively and the winning VK Team score from 2008 was hotly contested by the rest of the world. Hopefully, Team VK has done better than their cricketing counterparts recently!

The Commonwealth Contest is a slightly unique contest as regards multipliers and the requirements from the antenna system. To be successful, sitting on a seemingly lively band and thundering along with a reasonably high Q-rate is not likely to get a maximised score. I even heard one station calling "CQ CC" on 160m one year – the band is not included in the contest! It pays to do some homework prior to the start of the contest to make sure you are up to date.....

2008 IARU HF World Championship Results

Congratulations to the following VK stations appearing in the results listing for the contest.

VK4TT	3,562
VK8FGNT	2,596
VK4EJ	16,809
VK8AV	1,800
VK6AA	505,818
VK3TZ	81,420
VK2GWW	133,812
VK7GN	27,878
VK3KE	12,810
VK4XES	12,006
VK5NPR	3,151
VK7CAV	1,224
VK3EW	28,845
VK2ZQ	5,618
VK2AYD	88,899
VK2GR	25,251

2008 Islands On The Air Results

The contest is based on the IOTA Awards Program and is intended to encourage contacts with island stations. There are also special awards for expedition entrants, to encourage island expeditions over the contest weekend. Competitors may contact any amateur station whether

on an island or not. However, extra points and multipliers are gained by working island stations. It is a mixed mode contest so any stations contacted on CW for example, can also score points if also contacted on SSB. Contacts with island stations score 15 points and contacts with non-island stations score 3 points, so any IOTA islands placed near to highly populated other IOTA islands can score very nicely indeed. I used to enter this contest with a group of like minded blokes from the Isle of Man. It was a highly profitable mode of operation to work into G on 40m as they all scored 15 points per QSO. Finding other (rarer) IOTA islands to try and gain a multiplier was not always as profitable for the scores bottom line. In the Northern Hemisphere the night is shorter as the contest takes place in the middle of their summer, so the maximum use of the LF bands is required during the hours of darkness to gain the highest number of multipliers.

Congratulations to the following VK stations who appear in the results for 2008:

VK6DXI	CW	24H	HP	113904
VK4BUI	MIX	24H	HP	83214
VK5MAV	CW	12H	LP	16422
VK2CCV	CW	12H	LP	13464
VK4TT	CW	12H	LP	7980
VK4FRAJ	MIX	12H	QRP	5778
VK2GR	CW	12H	LP	4704
VK8AV	CW	12H	HP	3555

Claimed Scores for IARU 2008

Callign	Section	Score
VK4XES	Single Op, Phone Only, LP	13,869
VK5NPR	Single Op, Phone Only, LP	3,288
VK7CAV	Single Op, Phone Only, LP	1,224
VK3EW	Single Op, Phone Only, HP	37,824
VK2ZQ	Single Op, Phone Only, HP	5,994
VK3TZ	Single Op, Mixed Mode, LP	100,800
VK4TT	Single Op, Mixed Mode, LP	4,374
VK2GWK	Single Op, Mixed Mode, HP	154,456
VK7GN	Single Op, Mixed Mode, HP	33,880
VK3KE	Single Op, Mixed Mode, HP	17,108
VK2AYD	Single Op, CW Only, LP	93,599
VK2GR	Single Op, CW Only, LP	31,020
VK8AV	Single Op, CW Only, LP	1,600
VK8AA	Single Op, CW Only, HP	564,108

The results are scheduled to be released soon for the IARU contest, so I will include them here when they are available. Some very good scores

were recorded for VK stations, but category entries need careful selection as the contest organisers have a slightly different view on life in this respect – no Single Op Single Band entry.

Alternative contest exchanges

It could be argued that the premier, biggest and most prestigious DX Contest, CQWW, has a very simple and somewhat 'dumbed-down' exchange. There is not a piece of software made that does not automatically assign the zone number based on the call sign prefix. CT, the first major contest logger, had provision for logging RST Sent as anything other than 59(9), but defaulted to 59(9). Since then, and it may also have taken place before of course, the exchange of 59(9) has become largely redundant.

The All Asia contest spices things up a little with an exchange that is not so easy to 'predict', with the report being tail-ended with the age of the operator. It gets even more interesting for multi-operator entries during this contest as working a callsign on a band may result in a different exchange when next worked as the operator has changed and the age is different.

A pseudo random number generator could produce a code which is then exchanged with a participant, but which changes from QSO to QSO. It would stop people listening to a station after their QSO to check that they had got the serial number correct, for example. Making the random code generator into alphanumeric sequences would also remove using cut numbers!

What about trying a methodology adopted for a particular contest in Europe some years ago? The exchange contained a reference to whatever the operator had consumed for his or her tea that evening! I dare say that many operators had PIE or EGG that night and did not bother with TARAMASALATA.

How do you improve?

"How do you get to Sydney Opera House?" the chap asked his cab driver.

The reply:

"Practise, practise, practise."

Most people can acknowledge that practice is an important part of learning and improving any skill. Sportsmen and women practise – sometimes for years – to hone their skills. People learning

musical instruments practise – often to the utter disdain of neighbours trying to have an early night whilst accompanied by a wailing violin. Very few people are a "natural" who can just pick something up and be instantly good at it. So, it's a bit strange that very little is ever said about practising with regard to radio contests.

Some suggested ways to practise for radio contests that I have been offered over the years:

- Start at the bottom of the band and see how fast you can search and pounce your way to the top. Then go back to the bottom and do it again. The first time is about knowing how to acquire the next signal and dump in your call (or decide to keep tuning). The second pass is the valuable one. It helps you practise call sign recognition, duping skills and how to dig for some goodies between the fast loud signals.
- Work a QSO party or smaller DX contest that is focused on one area. This is good practice for the Commonwealth Contest for example. See if you can work every station you hear from that area. Again, this helps you practise recognising signals from a target area and honing duping skills.
- Work RTTY contests to learn SO2R skills – if you are so inclined. In RTTY, the computer is doing the brain work and the QSOs have a fairly consistent timing and pattern. This frees you to practise the keyboarding skills of jumping between the two logging windows. For an even higher level of practice, try running on two bands at the same time (while never transmitting on two bands at once). The goal is to do it so smoothly that no one listening can tell what you are doing!
- Search and pounce in a contest using low power. Almost everything I learnt about busting pileups (I am still learning I might add!) came from my early years in ham radio with 10 watts and wires in trees. You take a different approach when you are not the loudest guy in the pileup – and I'm not the loudest now I might add! Learn that different approach and then be

amazed when you apply it while running at full legal output if you are able to use it

- Get on the air between contests and make some QSOs. Nothing helps your CW sending more than having to think and send at the same time (!)

Use CW simulator software. Forgetting your feet wet in SO2R without risking much on the air, feed 'MorseRunner' in WPX mode into one ear and the audio of your radio doing SandP into your other ear. You may even create a small 15-minute competition for yourself. Either that or you'll go utterly insane while trying to.

Another thing I have found very helpful over the years is to review and compare rate sheets with competitors. Were you on the right band? If you were, why was your rate better or worse than theirs?

The most obvious answer is indeed practice, practice, and practice. For a week or more before a CW contest, I try to listen to CW call signs at very high speed – either on the air or using a PC. It helps to reset my clock at a higher level. You do not have to copy at QRQ (although it would help!), just get used to listening to code at those speeds. Then I find it easier to copy when things slow down to 40 wpm or so as compared to not listening to QRQ ahead of time. Maybe it is just me, but give it a try and see if it works for you too.

The other thing to practise is accuracy. It is easy to put "something" down, but is it right? Quality trumps rate 100% of the time. Resist the urge to log it, "no matter what." Asking the other station for repeats is not something to be embarrassed about. Logging a busted

call or exchange is only going to lose you points in the end – and possibly gain you a points penalty during the adjudication process. If you are not sure you got it right and you have asked for repeats but get no cooperation, then I suggest you do not log it. Equally, if you are asked for a repeat, take the time to repeat it! If the guy asking for a repeat is sending quite a bit slower than you are, slow down when you give the repeat – he is only likely to ask again otherwise.

There are possibly many ways you can take things from your daily life and work and make them tools for training your mind and body and improving your operating skills. All it takes is a little imagination and creativity, plus effort and having fun.

ANARTS Contest ceases

Pat Leeper VK2JPA regrets to inform everyone that the ANARTS WW RTTY Contest will no longer be held. Pat is unable to do the job due to chronic ill-health and failing eyesight and appeals for someone to take over have had no result after being included in WIA News bulletins. It did not help that very few contestants (they could be counted on one hand) used the correct Cabrillo format for this contest, with the result that there were either no points or CQ zones in almost all logs. The club's remaining function is the weekly news bulletin which is posted on the website. I hope you are on a speedy road to recovery, Pat, and thanks for all that you've done for the contest.

A (not so) hair raising experience

Somewhat late in the printing due to

space pressures last month, but Andy Munson VK4HAM is taking part in the Leukaemia Foundation World's Greatest Shave on the 13th of March and is scheduled to have his boyish tufts detached just prior to the John Moyle Contest. The hair removal itself might be beset with turmoil – the 13th is a Friday after all!

I am hoping that a picture of Andy during his following contesting activities will be made available for printing in AR at a later date to see if he has three sixes hidden on his scalp. It would explain a lot! If you hear Andy on the bands then give the bloke a shout. Andy might try and sell you a second-hand hair dryer or a comb, but resist the urge to part with any money – unless you want to sponsor him of course!

This and That

Ed W2RF is developing a CW Skimmer application called RigSync that integrates output from the automated decoder with the WriteLog logging software. RigSync works with both Windows XP and Vista, so it should run on whatever reasonably modern PC you have. The software seems relatively benign to use so even the hard of thinking (me) should not have a problem to get it going. It's still early in the development as far as I can ascertain, but we'll see how it goes. Thus far at least, it looks like a handy tool.

If you have any contest related material for inclusion within the column, topics that you'd like covered or even some experiences and pictures you'd like to share, then please feel free to get in touch via vk4baa@wia.org.au. See you on the bands.

73 Phil Smeaton VK4BA

Summer Field Day 2009: Results

The Summer Field Day saw a total of 68 logs – not quite equal to the record, but very close. Propagation was variable: some operators reported ordinary conditions but others found that conditions were much better than usual. And many entrants reported high levels of activity. It was also good to see a number of logs from stations entering the contest for the first time

This time the most unusual feature of the results was two enormous scores

by Tim Dixon VK5ZT in Section A and the Elizabeth club VK5LZ in Section C. Their operation could best be described as "extreme grid-hopping". Hats off to them for the enormous effort it would have taken for them to activate so many squares. The runner-up for Section A was Ralph VK3WRE, and in Section C it was the Lara group VK3UHF.

In the eight hour sections, Ralph complemented his second place in Section A with a win in Section B, and

Contest manager: John Martin VK3KM

the runner-up was Bill VK3LY. In Section D, the winners were the VK3XPD crew, with second place going to the family station VK3ALB, who entered the Field Day for the first time

In the home station section, top score went to Barry VK3BJM, and the runner-up was Matt VK2DAG.

Congratulations to all. I hope you will all be back for the next event, which will be the second Winter Field Day in late June.

Results table next page

Call	Name	Location	50 MHz	144 MHz	432 MHz	1296 MHz	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	TOTAL
Section A: Single Operator, 24 Hours												
VK5ZT	Tim Dixon	PF84,85,86,87,94,95,96,97, QF04,05,06	246	774	1275	1976	2460	1770	2460	2460	-	13421
VK3WRE	Ralph Edgar	QF31	-	306	495	704	680	550	430	440	-	3605
VK40E	Doug Friend	QG50, QG60	-	459	740	664	550	-	-	210	-	2623
VK3ZQB	Russell Lemke	QF11	-	285	350	648	-	-	340	490	-	2113
VK3LY	Bill Day	QF04	137	540	745	672	-	-	-	-	-	2104
VK3JTM	Tim Morgan	QF12	127	402	655	904	-	-	-	-	-	2088
VK3ECH	Rob George	QF23	43	528	655	520	-	-	-	-	-	1746
VK3BBB	Brian Young	QF32	136	645	740	-	-	-	-	-	-	1521
VK3DAG	Steven Hamer	QF32	110	483	625	-	-	-	-	-	-	1218
VK2HRX	Compton Allen	QF44	24	396	345	280	-	-	-	-	-	1045
VK2FABV	Colin Sibraa	QF36	-	735	220	-	-	-	-	-	-	955
VK5AR	Alan Rafferty	PF94	62	408	450	-	-	-	-	-	-	920
VK5BC	Brian Cleland	PF85	32	282	175	304	-	-	-	-	-	793
VK4HEC	Ewen Cameron	QG52	21	351	290	-	-	-	-	-	-	862
VK5UE	Colwyn Low	PF95	-	147	280	168	-	-	-	-	-	595
VK1AI	Greg Parkhurst	QF44	28	210	140	-	-	-	-	-	-	398
VK3FASW	Andre Walker	QF21	-	189	-	-	-	-	-	-	-	189
VK2YJS	Julian Sortland	QF56	-	81	-	-	-	-	-	-	-	81
Section B: Single Operator, 8 Hours												
VK3WRE	Ralph Edgar	QF31	-	306	495	704	670	540	430	430	-	3575
VK3LY	Bill Day	QF04	81	402	745	472	-	-	-	-	-	1700
VK3KVB	Barry Maskell	QF23	43	348	455	360	-	-	-	-	-	1206
VK3YFL	Bryon Dunkley-Smith	QF22	45	396	515	-	-	-	-	-	-	956
VK2CU	Justin Lavery	QF59	-	474	450	-	-	-	-	-	-	924
VK3HHJ	Dean Emmins	QF12	57	342	495	-	-	-	-	-	-	894
VK5AGZ	Derek Reuther	PF85, PF95, PF96	-	273	380	168	-	-	-	-	-	821
VK4ADC	Doug Hunter	QG61	119	291	370	-	-	-	-	-	-	780
VK5BC	Brian Cleland	PF85	21	237	165	272	-	-	-	-	-	695
VK5AR	Alan Rafferty	PF94	57	291	305	-	-	-	-	-	-	653
VK5NI	John Ross	PF94	47	126	445	-	-	-	-	-	-	618
VK3HV	George Francis	QF31	44	138	400	-	-	-	-	-	-	582
VK4WRC	Ross Colledge	QG62	33	186	240	-	-	-	-	-	-	459
Section C: Multi Operator, 24 Hours												
VK5LZ	Elizabeth ARC (1)	PF84,85,86,87,94,95,96,97, QF04,05,06	254	810	1305	1993	2460	1770	2460	2460	-	13511
VK3UHF	LUMEG (2)	QF21	110	774	1195	1432	980	700	800	1020	240	7251
VK5SR	SERG (3)	QF02	201	1017	1320	1320	620	490	590	660	-	6218
VK3ER	EMDRG (4)	QF22	300	981	1565	1920	-	-	-	-	-	4766
VK3TU	(5)	QF01	61	594	915	1088	630	330	330	530	-	4478
VK1DA	(6)	QF44	95	762	955	616	320	-	-	210	-	2958
VK3MV	(7)	QF32	130	774	770	736	-	-	-	-	-	2410
VK5ARC	(8)	PF94	137	897	1000	328	-	-	-	-	-	2362
VK4WIE	CBRS (9)	QG63	146	663	915	504	-	-	-	-	-	2228
VK2LSB	(10)	QF54	32	1086	215	-	-	-	-	-	-	1333
VK4CZ	(11)	QG51	70	447	420	360	-	-	-	-	-	1297
VK2BTW	Tamworth RC (12)	QF58	66	405	355	184	-	-	-	-	-	1010
Section D: Multi Operator, 8 Hours												
VK3XPD	(13)	QF21	48	354	575	912	660	440	330	550	210	4079
VK3ALB	(14)	QF11	-	489	780	656	-	-	-	340	-	2265
VK3APC	MDRC (15)	QF21	85	264	545	344	-	-	-	-	-	1238
VK3FRC	FAMPARC (16)	QF21	116	369	425	304	-	-	-	-	-	1214
Section E: Home Station, 24 Hours												
VK3BJM	Barry Miller	QF22	99	672	775	984	-	-	-	-	-	2530
VK2DAG	Matt Hetherington	QF56	124	699	805	712	-	-	-	-	-	2340

Call	Name	Location	50 MHz	144 MHz	432 MHz	1296 MHz	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	TOTAL
VK3BDL	Mike Goode	QF22	133	537	820	832	-	-	-	-	-	2322
VK3MY	Ross Keogh	QF22	-	405	515	728	580	-	-	-	-	2228
VK4JMC	John McPherson	QG62	60	693	860	-	-	-	-	-	-	1613
VK4CP	Adam Maurer	QG62	79	423	530	480	-	-	-	-	-	1512
VK2DVZ	Ross Barlin	QF68	24	618	470	392	-	-	-	-	-	1504
VK3VFO	Nick Kraeche	QF31	64	702	560	-	-	-	-	-	-	1326
VK4ZDP	David Purkis	QH32	284	354	455	232	-	-	-	-	-	1325
VK3DMW	Ken Brown	QF31	-	321	330	536	-	-	-	-	-	1187
VK2EI	Neil Sandford	QF68	29	510	260	-	230	-	-	-	-	1029
VK5LSB	Simon Brandenburg	PF94	65	420	510	-	-	-	-	-	-	995
VK5ALX	Alex Glinsk	PF86	33	249	335	-	-	-	-	-	-	617
VK3XOR	Craig White	QF22	52	243	260	-	-	-	-	-	-	555
VK1PAR	Al Long	QF44	47	336	170	-	-	-	-	-	-	553
VK1WJ	Waldis Jirgens	QF44	34	264	245	-	-	-	-	-	-	543
VK5OM	Jim Bywaters	QF03	-	231	275	-	-	-	-	-	-	506
VK3KST	Tom Steadman	QF31	28	210	140	-	-	-	-	-	-	378
VK2KTC	Tom Clifford	QF56	59	117	130	-	-	-	-	-	-	306
VK4JAZ	Grant McDuling	QG62	54	138	105	-	-	-	-	-	-	297
VK5NY	Roger Bowman	Check log										

- (1) Elizabeth ARC: VK5ZDB Iain Crawford, VK5AHV Will Anthony, VK5AKH Andrew Hall
- (2) Lara UHF and Microwave Experimenters' Group: Chas Gnaccarini VK3PY, David Learmonth VK3QM, Charlie Kahwagi VK3NX
- (3) South East Radio Group: VK5DK, VK5HMW, VK5XCP, VK5GL, VK5HCF, VK5EE, VK5NC, VK5HDW, VK5KET
- (4) Eastern and Mountain District Radio Club: VK3AVV Mike Subocz, VK3QI Peter Forbes, VK3WT Max Chadwick, VK3WWW Jack Bramham.
- (5) Bert Gnaccarini VK3TU, Ken Jewell VK3NW/ VK3AKK
- (6) Andrew Davis VK1DA, Dale Hughes VK1DSH, Andy Sayers VK2AES
- (7) Peter Young VK3MV, Gavin Brain VK3HY
- (8) South Coast ARC: VK5LA Andy Willis, VK5KBJ Barry Bates, VK5HSX Stef Daniels
- (9) City of Brisbane Radio Society: John Morris VK4MJF, Mike Cooper VK4MX, Colin Cortina VK4MIL
- (10) Stuart Bayliss VK2LSB, Kirk Mercer VK2FKAM
- (11) Scott Watson VK4CZ, Alan Meek VK4WR, Graeme Hope VK4FI, Campbell Watson
- (12) Tamworth Radio Club: VK2WJD Lindsay Murphy, VK2FBOZ Cris Perrett, VK2FOG Brian Pearce, VK2VRD Robert Duck
- (13) Alan Devlin VK3XPD, Peter Roberts VK3TPR, Michael Coleman VK3KH
- (14) Lou Blasco VK3ALB, Nik Presser VK3NJP, Jenni Blasco VK3FJEN, Ingrid Blasco VK3FGRL, Michael Blasco VK3FMIC
- (15) Moorabbin & District Radio Club: Ian Morris VK3IFM, Lee Moyle VK3GK, Gerard Werner VK3GER
- (16) Frankston and Mornington Peninsula ARC: R o y Seabridge VK3GB, David Roitman VK3LDR, Peter Collins VK3BPN, Brian Rich VK3VBJ.

LATE LOG - One log was unfortunately not received until well after the deadline, when the results had been finalised

and certificates mailed out. But the details are included here for the sake of the record, and because the operators achieved a very healthy score.

Station: VK2AWA (Operators: VK2NU, VK2BPL, VK2FHRK, VK2IM, VK2KRM, VK2FIRE) - Section D: 2431 points

FIELD DAY WEB SITE - <http://www.wia.org.au/members/contests/vhufhf/>

This site includes the rules for the next Field Day, rules and results of all past VHF-UHF Field Days, cover sheets and scoring tables, plus other information.

Some Comments

VK5ZT

This is a considerable expansion on my Spring field day effort. Preparations took nearly two weeks working all available time on the project and requiring significant equipment constructions. Lucky I was on leave at the time. Despite better reliability I still lost a receiver by Sunday morning and needed to modify the 5.8 GHz radio to improve audio quality.

I carried a full tool kit in the boot, including a Hitachi 100 MHz oscilloscope. 240 V power was available in the car to run one of the receivers (and the CRO if needed). Despite working with 5LZ, there was very little pre-contest testing as I live 150 km from the city!

I commandeered my wife's car, a black 2001 Falcon, for the contest. When it was covered with antenna systems (some attached to the window with double sided tape!) it was often mistaken for a police vehicle, prompting drivers around me to be very speed conscious... until they saw the pink numberplate covers! I drove and worked alone for the duration of the event. An Engel fridge in the boot kept me supplied with food and cold drinks. Well over 1000 km was travelled.

The most challenging part of the event was activating grid square QF06. A quick look at a map will show you it is essentially uninhabited mallee scrub. It was dark as we entered it via about 18 km of corrugated, bulldust covered tracks with roos, rabbits, owls etc making appearances.

Travelling alone over such terrain (the SLZ team were about 10 km away at the time) was rather daunting. I was in a family sedan running low profile tyres in 4WD country! I suspect the corrugations contributed to the failure of the 3.5 GHz receiver system.

The planning, preparation, expense (in both time and \$\$\$) and the sheer overall physical effort required mean that this is highly unlikely to be done again (at least not by us). I have decided on a less ambitious program for future contests.

VK3DMW

What a fantastic event for all those who played the 24 hours - good propagation, good weather and plenty of stations. Although my log is very small, I managed to add six new squares to my tally and every contact attempted was successful, even from my meagre 70 cm setup (75 W to a vertical colinear). The huge signals from the Mt Gambier group on 2 m, 70 cm and 23 cm were a great surprise.

I thought 23 cm to Mt Gambier from Yarram would be very difficult, but in the end it was easier than falling off a log - and less painful. All in all, a most enjoyable and satisfactory weekend for me, in spite of the many interruptions to radio operations.

VK1DA

This year the field day presented an additional challenge for me because we were scheduled to move house during the week prior to the field day. I managed this by moving the field day equipment to the garage of the new house before moving anything else.

It all sat on the side of the garage and we carried everything else past it for the next week. By the 5th consecutive day of moving boxes of household goods between houses I did not feel too keen on the field day as I was very tired. However Dale VK1DSH was keen to participate and my wife encouraged me to go ahead with the plan as she knows how much I enjoy these events.

I made a few equipment changes this year and I had help from Dale VK1DSH for the whole event. Also Andy VK2AES visited the site from late afternoon Saturday through to mid morning on Sunday. Andy brought his 5 year old son Tom, who at various times went walking in the bush with Andy, sat in the tent watching the radios, and for some relaxation, settled down on the floor of the tent with his Lego. It is a long time

since I have had a 5 year old on a field day with me.

On the whole I think interest and support for the event is improving but the use of the suggested calling frequency still causes a lot of problems because of people conducting QSOs on that frequency and in some cases, multiple QSOs for minutes at a time.

VK2DAG

This one seems to have more "Bums on Seats" which is great. There appeared to be no 2 m Es around and from my QTH there was a little inland troppo. There seems to be a lot more 23 cm activity which appears to be a trend. I will have to get 13 cm going right if I want to remain competitive. My 70 cm and 23 cm scores were higher than my 2 m score, so that shows the value of the higher bands.

VK2LSB

We operated from QF54et on the escarpment above Milton/Ulladulla on the NSW mid south coast. This was our first contest and we had heaps of fun and a decent amount of contacts, some personal best distances and learnt miles of stuff. Looking forward to the winter contest.

VK4ZDP

I had a great time with some good openings.

VK5ARC

Conditions were hot, with good conditions in the morning. On both days, we worked into both Victoria, and also Western Australia, on both 2 m and 70 cm. Very enjoyable.

VK3WRE

One of the best microwave events of recent years at my end of the circuit.

VK3XPD

We added a new member to our team this time, Peter VK3TPR in an endeavour to encourage a new operator into uWaves. He had a ball. We were also visited by members of VK3APC, the Moorabbin club operation which we discovered were positioned within 1 km of us. They observed for over an hour, and became so interested in what we were doing on uW, they have invited us to address their club on the subject of "Working the higher bands." Now that is what a FD is all about.

An anecdotal observation: this would have to be the most participated FD

we have been involved in. Lots of new stations. That is exciting.

One final comment: There have been endless hours of chatter on the Reflector about the rules. It is our team's belief that the rules are fine, just as they are. They are easy, and new participants find them readily understood.

VK3BJM

Sadly just a home station - my intention was to finish fitting a new 25 W PA to my 2.4 GHz transverter. Then fit the feed horn to the 5.7 GHz dish... then... well, you get the idea - wander between shack and shed, handing out the odd number as time permitted. Ended spending most of the 24 hours in the shack, on the radio.

Loads of activity - conditions variable - seriously good to the SW; not so flash to the NE. Very disappointed not to have managed to work Andrew VK1DA on 23 cm. Best contact - possibly the 23 cm contact with Gavin and the crew at VK3MV on Mt Blue Rag - they had no problems hearing my 60 watts, but I just could not get their report and sequence with their 10 watts, on voice (I got the callsigns on a fluke QSB peak). Gavin went to the key and even then it took 3 or 4 attempts before I got all the digits. That was mighty satisfying.

Though working VK3TU on 23 cm from QF01 to add a new grid locator to the tally was kinda nice, too!

VK3YFL

It was a great event, with plenty of activity and me choosing yet another new location, but deciding to stay put for eight hours rather than grid hopping as I have done in the past. My location was at the Frank Thompson Reserve which is part of the Kinglake National Park. It is good for a stretch through south takeoff, but I found the going hard to the east and north. Unfortunately it also had a disadvantage of being sandwiched between two commercial two way radio towers and I suffered some interference from that.

I think the next step is computer logging in the field, as I found when doing the log for scoring after the event that I had a couple of duplicates.

While there seemed to be plenty of activity for the field day, there does seem to have been a lack of stations wanting to exchange Ross Hull numbers and so it will be interesting to see the level of logs submitted for that.

Ross Hull Memorial VHF-UHF Contest 2009: Results

This year Rob Ashlin VK3EK made a return to the contest scene and had a well-deserved win in Section A. Next came Andrew VK1DA and Brian VK2AH. Also noteworthy was Ted VK2ARA – he is not a VK4, yet he was the top scoring station on 6 metres. In section B the winner was Waldis VK1WJ, followed by Barrie VK6ADI who also made a good showing in Section A as the sole VK6 entrant. Congratulations to all.

This year's contest was an experiment. For most of the sixty years since the contest's inception, scoring has been based on distances worked – except for several years in the late 1980s when it was based on locator squares. The contest enjoyed strong support for most of its history, but it has been in the doldrums since the late 1990s. So this year the scoring system was changed

to see whether a locator-based scoring system would result in greater interest.

An advantage of locator-based scoring is that it isn't necessary to estimate the distance worked for each contact, and this makes it easier to maintain a log. Another advantage is that the Maidenhead locator system is now very well known, especially as it is also the basis for the Grid Square Award and the scoring for the VHF-UHF Field Days.

But locator based scoring has some disadvantages for a DX contest. The main one is that each locator is worth the same score regardless of how far away it is. So the new scoring system doesn't fully reward contacts made well outside one's normal working radius. It can also tend to put a cap on the level of activity because new grid squares are worth ten points, but there is only one point for

Contest manager: John Martin VK3KM

new stations in squares that have already been worked.

I have always believed distance based scoring is the most appropriate for this contest. But levels of activity have been very low, and I felt that it was necessary to try something different.

Has the change of scoring system helped create more activity? The jury is still out. There has been a 50 per cent increase in the number of logs this year, but activity levels are still very low compared with the heyday of the 1990s. So, for the next contest, there are several decisions. Is it reasonable to give the locator-based scoring another chance? And what of Section B? These questions, and others, will have to be considered over the coming months. I'd welcome any comments or suggestions.

ar

Call	Name	50 MHz	144 MHz	432 MHz	1296 MHz	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	TOTAL
Section A: All Bands										
VK3EK	Rob Ashlin	411	948	1040	800	490	220	220	220	3340
VK1DA	Andrew Davis	51	827	825	496	220	-	-	-	2219
VK2AH	Brian Farrar	492	639	545	-	-	-	-	-	1676
VK2ARA	Edward Thrift	510	821	405	-	-	-	-	-	1536
VK2TG	Robert Demkiw	35	633	405	-	-	-	-	-	1073
VK6ADI	Barrie Burns	497	279	180	-	-	-	-	-	956
VK4JAZ	Grant McDuling	189	186	220	-	-	-	-	-	575
VK3HV	George Francis	60	117	305	88	-	-	-	-	570
VK4LW	Ricky Chilcott	151	66	110	-	-	-	-	-	330
VK4ZJ	Rodney Webb	-	186	-	-	-	-	-	-	186
VK3XOR	Craig White	68	33	65	-	-	-	-	-	166
VK4TGL	Gerard Lawler	14	54	85	-	-	-	-	-	153
Section B: Digital modes, All Bands										
VK1WJ	Waldis Jirgens	-	183	-	-	-	-	-	-	183
VK6ADI	Barrie Burns	47	-	-	-	-	-	-	-	47

World Amateur Radio Day 18 April 2009

IARU International Coordinator for Emergency Communications

Amateur Radio: Your Resource in Disaster and Emergency Communication

While the International Amateur Radio Union (IARU) has made its contributions to emergency and disaster response ever since its beginnings in 1925, this role has gained a lot of importance just in the recent past.

It has at its disposal:

- A large number of very flexible and mostly infrastructure-independent, local, national, regional and global networks, and
- A large number of skilled operators,

who know how to communicate with often very limited means and to establish communications under the most difficult circumstances.

When disasters occur where there is not good coverage by public networks, or when existing communications infrastructures have just been disrupted or destroyed by such events, the IARU provides communications for rescuers, relief organizations and for those affected by the disaster.

This is why more and more amateur radio operators, through their clubs and their national societies, prepare very seriously for their role in emergencies.

However, their skills can be put to use only if they are known by other first responders such as search and rescue, medical resources and those who can provide food and shelter.

Activities on World Amateur Radio Day 2009 is a great opportunity to spread the word about what "hams" are doing.

Hans Zimmermann F5VKP/HB9AQS

David Giles
vk5dgg@amsat.org

Paul Paradigm VK2TXT finds that he is now not in a position to continue his contributions to the AMSAT column in AR. Thank you Paul for your work over the past few months. This month's contribution comes from David VK5DG. I understand that David will tell us all a little more about himself in the May column. Welcome aboard David.

Peter VK3KAI (Ed.)

DO-64 Delfi-C3 Back in science mode

After three months of testing in basic mode, recovery of the transponder on DO-64 has not been successful. The command team at the Delft University of Technology in the Netherlands have decided to put DO-64 back into science mode. The 1200 baud BPSK downlink is now being transmitted on the primary frequency of 145.870 MHz. DO-64 may

transmit on the secondary frequency of 145.930 MHz.

Unlike basic mode where the downlink was heard on every pass, in science mode DO-64 has a tendency to shutdown during most orbits. This means it is usually silent by the time it gets over VK/ZL. However the command team are still interested in getting any telemetry. In the 10 months DO-64 has been in orbit over 72 MB of telemetry has been collected.

Recently the RASCAL demodulating and decoding software has been updated to version 1.1.0. This latest version scans the audio from 900 Hz to 2300 Hz. I have found it to lock onto and decode DO-64's signal much better than previous versions. If you are using an older version, you only need to download an upgrade patch.

More details can be found in DO-64's homepage at www.delfic3.nl

Old dog teaches new tricks

AO-7's elusive 70 cm beacon has been heard. In early March several stations posted on the AMSAT bulletin board that the 435.106 MHz beacon was sending telemetry using RTTY with an 85 Hz shift.

This is unusual for several reasons. It is rarely heard at all and can only come on when the more popular 70 cm/2 m transponder is turned off. According to the Radio Amateur Satellite Handbook the power output dropped from 400 mW to 10 mW in 1975. According to the telemetry the output power was 285 mW. Also the other CW telemetry beacons have usually been off during the current non-eclipse period.

Some telemetry was decoded using a table from the December 1974 AMSAT

AMSAT-VK

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group.amsat-vk.org

About AMSAT-VK

AMSAT-VK is a group of Australian amateur radio operators who share a common interest in building, launching and communicating with each other through non-commercial Amateur Radio satellites. Many of our members also have an interest in other space based communications, including listening to and communicating with the International Space Station, Earth-Moon-Earth (EME), monitoring weather (WX) satellites and other spacecraft.

AMSAT-VK is the primary point of contact for those interested in becoming involved in amateur radio satellite operations. If you are interested in learning more about satellite operations or just wish to become a member of AMSAT-Australia, please see our website.

AMSAT-VK monthly nets

Australian National Satellite net
The net takes place on the 2nd Tuesday

of each month at 8.30 pm eastern time, that is 9.30 Z or 10.30 Z depending on daylight saving. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. The format also facilitates other aspects like making 'skeds' and for a general 'off-bird' chat. In addition to the EchoLink conference, the net will also be available via RF on the following repeaters and links.

In New South Wales

VK2RMP Maddens Plains repeater on 148.850 MHz
VK2RIS Saddleback repeater on 148.975 MHz
VK2RBT Mt Boyne Repeater on 148.675 MHz

In Victoria

VK3RTL Laverton, Melbourne, 438.600 MHz FM, - 5 MHz offset

In the Northern Territory

VK8MA Katherine 146.700 MHz FM

In South Australia

VK5TRM Loxton on 147.125 MHz
Operators may join the net via the above

repeaters or by connecting to EchoLink on either the AMSAT-NA or VK3JED conferences. The net is also available via IRLP reflector number 9509. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email.

AMSAT-VK HF net

Members and interested parties are also reminded of our HF net which is held on the 2nd Sunday of each month. See www.amsat-vk.org for details.

Become involved

Amateur satellite operating is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started. You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm. These easy-to-use and popular FM satellites will give hams national communications and handheld access into New Zealand at various times through the day and night.

Should you wish to join AMSAT-VK, details are available on the web site or sign-up at our group site as above. Membership is free and you will be made very welcome.

newsletter recently scanned and made available by Phil Karm KA9Q. Analysis shows that AO-7 is in good shape for its age. Most of the 60 channels of telemetry were within specifications. All of the solar panels are producing current, the voltage regulators are regulating properly, the temperature sensors may be faulty and the 4.997 V calibration reference is reading 5.01 V.

An email from Mike NIJEZ, AO-7 command operator stated, "This is pretty significant. Every time I have tried to activate the RTTY system, all I would get is a solid carrier then the bird has reset indicating a lack of power. I wonder what might have changed?"

JAXA launches 8 birds

On 23rd January, the Japanese Aerospace Exploration Agency (JAXA) launched eight satellites. Five of these are of interest to amateurs. Three have been heard and telemetry decoded by amateurs, one has remained silent and the other has not yet been commanded

for amateur use. They are not CubeSats but range from 3 to 50 kg.

PRISM was built by the University of Tokyo's Intelligent Space Systems Laboratory that gave us the CO-57 (Xi-IV) and CO-58 (Xi-V) CubeSats. The 8 kg satellite's primary mission is to extend a boom with a lens for its camera. It is hoped to photograph the Earth with a resolution around 10-30 metres per pixel. PRISM currently transmits CW telemetry on 437.250 MHz. In the future an uplink frequency and mode will be published that will allow amateurs to communicate through it.

STARS is actually two satellites tethered together. Designated as "Mother" and "Daughter" they are transmitting CW telemetry on 437.305 MHz and 437.275 MHz respectively. The main mission is to deploy the tether and photograph the process. Both satellites have a camera.

KKS-1 (Kouku-Kousen satellite-1) was built by the Tokyo Metropolitan College of Industrial Technology

and will demonstrate a laser ignited thruster micro-propulsion system and 3-axis attitude control system. It has been transmitting a set of six preset messages using CW on 437.385 MHz. The CW beacon may be set to send other information.

Kagayaki has remained silent since launch. Amateurs are encouraged to listen on 437.375 MHz for signs of life, either the CW beacon or 9600 baud downlink. Best estimate is that the object with NORAD number 33495 is Kagayaki.

Sohla is a 50 kg satellite. Currently it is still being commissioned. Its primary mission is to study lightning. None of the amateur radio operations have been activated yet.

PRISM, STARS and KKS-1 control stations are keen to obtain reception reports.

Details of these satellites and all the CubeSats can be found at <http://showcase.netins.net/web/wallio/CubeSat.htm>

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Silent Key

Len Mostert VK3LM, VK3UH (formerly VK3DLM)

02/07/1947 – 02/01/2009

Len's interest in amateur radio was sparked when he and Peter VK3TT (current call) would visit Ron Jardine's VK3PR shack at Leongatha in the 1970s. It was not too long before Len obtained his Novice licence in around 1978 and eventually moved onto a full call.

Len was an avid antenna constructor, experimenting and constructing different designs of VHF and UHF beams with precision construction.

His passion was 6 m and 2 m sideband and he made many contacts on these bands. Len participated in many contests and would head out into the hills around Korumburra setting up his portable station. Testimony of that was the winning of the Ross Hull Memorial Contest in 2005. He was very proud of that achievement, with his certificate proudly displayed on the shack wall. Another of Len's interests was satellites, tracking them on his computer.

Over the years Len worked many contacts near and far. His regular weekly contact with fellow amateur Dick VK3PF (previously VK3DDS) after thirty years

is testimony of his friendly nature towards other amateurs and will be missed by us all.

Len and Thelma's enjoyment of country music would take them to the Mildura Country Music Festivals where they would meet up with the Mildura Amateur Radio Club members. Dinners, barbeques and visiting QTHs were great social events.

Len's precision construction skills were demonstrated by the model aircraft he built and flew, especially gliders and his helicopter. Model aircraft were Len's second hobby passion, after amateur radio, having been involved for at least forty years and having won state championships at flying competitions.

Len also enjoyed fishing, which he shared with his brothers and later his children.



As if this were not enough, he showed his meticulous nature through his home brew beer and even took out a national award for one of his brews.

Len will be missed by all who had the pleasure of knowing him, regardless of the field of endeavour through which they met.

Len leaves behind his wife Thelma, children Michelle, Shane, Narelle and the extended family.

submitted by Peter Little VK3TT

DX - News & Views

John Bazley VK4OQ

P.O. Box 7665, Toowoomba Mail Centre, QLD 4352. Email: john.bazley@bigpond.com

The DX community worldwide has recently lost an internationally known amateur, Jim Smith VK9NS, who passed away peacefully on Norfolk Island on the 10th February after a short illness.

First licensed in 1947 as VS1BQ (Singapore), for over sixty years Jim operated under a large number of call signs and from many countries around the world, including, at the time, new and rare DXCC entities and IOTA groups (A35MR, A51JS, A52JS, H40AB, S21ZA, T31JS, T33JS, VK0US, VK9WW and WIRZ/KH9, just to name a few). Jim's inestimable contribution to DXing was acknowledged in 1986, when he was inducted into the CQ DX Hall of Fame.

So what have we to look forward to in the coming months, following the KP5 Descheo operation?

Fernando de Noronha. Fabio PY2AAZ, Anderson PY2TNT, Alex PY2WAS and Bob N6QX will be active as ZY0F from Fernando de Noronha (SA-003) from around 2300 UTC on June 10th through around 1300 UTC on the 15th. Expect activity on 160-10 metres CW and SSB, plus 60 m under a special licence granted by the Brazilian authorities. QSL via PY2WAS, direct or bureau.

Pacific Tours. Hrane YT1AD and David K3LP are planning two DXpeditions to three DXCC Entities: Tokelau (ZK3), Central Kiribati (T31) which will take place in either April or September 2010, and Conway Reef (3D2C) in late September 2011. In order to organize these operations, Hrane and Miki YU1DW will be travelling to a few South Pacific islands between April 20th and May 7th this year, and activate the following Entities:

April 22	Samoa	5WBA (YT1AD) and 5W0DW (YU1DW)
Apr 22 - 24	American Samoa	KH8/NBYU (YT1AD)
Apr 25	Fiji Islands	3D2AD (YT1AD) and 3D2DW (YU1DW)
April 27 - 29	Western Kiribati	730M (YT1AD) and T30DW (YU1DW)
May 4	Fiji Islands	3D2AD (YT1AD) and 3D2DW (YU1DW)

More information will be available at <http://www.yt1ad.info/t31>

Western Sahara. A multi-national team of ten operators (namely EA1CI, EA1KY, EA2RY, EA3EXV, EA5RM,

EA7AJR, F9IE, IN3ZNR, UT7CR and UY7CW) will be active as S04R from Western Sahara from April 12th to the 17th. They will operate SSB, CW and digital modes on 160 through to 10 metres with at least three stations. The pilot station will be EA5BZ. QSL via EA5RM. Further information is available at <http://www.dxfriends.com>

5R8KDJ will be in **Madagascar** between July 6 and 17, including the IARU contest. He will be on CW and RTTY, 160-6 m. QSL via W5KDJ.

Mellish Reef. AA7JV and HA7RY (they operated from Willis Island in October 2007) will be active this time as VK9GMW from Mellish Reef (OC-072) between March 22nd and April 6th (dates may change due to weather). This will be "another low-key, simple DXpedition", with a strong focus on the low bands.

They have a new 160/80 antenna they expect will increase their effectiveness on those bands. (although George and Tomi intend operating on all HF bands). QSL direct to HA7RY. The logs will be uploaded to LoTW. Please visit <http://www.vk9gmw.com> for further information, including detail on how to contribute to the DXpedition. It is a 900 km voyage from Australia to Mellish Reef.

The two operators will be taking with them a K3, an IC-746 Pro, and two solid state amplifiers, all running from a single 1-1/2 kW Honda generator to four 12-volt car batteries. QSL only via HA7RY direct, Tamas Pekarik, Alagi ut 15, H-1251 Fot, HUNGARY. Include \$2 for up to three cards per envelope to cover postage. HA7RY would rather you not send IRCs; he says they are difficult to use. Card design and printing will take about six weeks after the operation.

Lord Howe Island. VK4FW advises that all the VK9LA equipment sent via the ship has safely arrived.

Frequencies of operation.

	SSB	CW	RTTY
160		1.813 u/d	
80	3.797 u/d	3.513 u	
40	7.084 u	7.013 u	
30		10.105 u	
20	14.250 u/d	14.023 u/d	14.086 u
17	18.165 d	18.072 u	18.100 u/d
15	21.290 u/d	21.023 u/d	21.088 u/d
12	24.987 d	24.892 u	24.925 u/d
10	28.470 u/d	28.023 u/d	28.088 u/d
6	50.100 u/d	50.100 u/d	

Notes:

1. u/d: Up or down
2. 6 m: Call us when the beacon goes into RX mode.
3. 40 m: RX for the Americas will be above 7.150
4. 80 m: A special time on April 1 has been set up to work the VK and greater Pacific (see www.odxg.org/vk9la.htm for details). We would request that these areas do not call us in the pile ups on 80 m before this event.
5. Pilot Station: Don N1DG will be our only pilot station.
6. VK4FW will arrive Sunday 22nd. With unpacking and sorting equipment he might get on air Sunday evening local time. On Monday four more of the crew arrive and will begin further assembly. We will try to get two stations on air ASAP. On Tuesday, when the rest of the crew arrive, we will finish assembly and get all stations on the air ASAP.

QSLing procedures

1. Direct via VK4FW
2. via the buro via VK4FW
3. OQRS (www.odxg.org/qs1.htm) direct or
4. OQRS (www.odxg.org/qs1.htm) buro

Randy N0TG and friends are planning a trip to **Sable Island**, CY0, from October 7th to the 14th, 2009. N0TG/CY0, WA4DAN/CY0 and AA4VK/CY0, Randy, Murray and Ron, have started a web site, www.CY0dxpedition.com. They plan to have three complete HF stations using three Butternut verticals.

They think that verticals will be perfect since the island is sand and completely surrounded by saltwater. They hope to be on all bands, 160 m to 10 m, SSB and CW. Looking back at their 1996 CY0XX operation in October of that year, they decided October was just about the optimum month for propagation. They will emphasize openings to Asia, where Sable is ranked #10 most needed in Japan. They will experiment with having two stations on 20 m at the same time.

HJT and other nasty infections

I have just had a frustrating 90 minutes trying to get a persistent virus or Trojan off my computer. I have been running several programs to identify this intruder, which automatically pops up with my mail client. This annoys me especially when I am caught up doing important work. The offending intruder seems to be "HijackThis" or HJT and from what I have read is a hidden program to write junk emails under my own email address. Oh for the days when we did not have viruses or Trojans and we did not need so much antivirus software to keep our computers free from nasties. I have even heard about a Russian antivirus program that took off offending intrusions, only to infect it with its own viruses.

At the end of March, there were further reductions in worldwide shortwave broadcasting. More are opting to put their programs out either as podcasts or streaming audio. Of course, shortwave broadcasts will continue for quite some time, particularly to Africa

where Internet usage is very low or non-existent. The wisdom of local placement of international broadcasts via FM seemed promising but ran into difficulties when governments became extremely jittery at coverage of domestic news they preferred not to have been aired. The result often is these FM relays were closed or new regulations brought in to stop local stations relaying foreign broadcasts.

Sri Lanka has relayed the BBC for many decades but in February, newscasts were suddenly interrupted with frequent dropouts, especially when items were aired on the government offensive against the Tamil Tigers. There has been an ongoing civil war for over 30 years and recently the Government got the upper hand, routing the Tamil rebels. The BBC complained at this censorship and London terminated the contract with the SLBC.

In last month's column, I stated that

the Obama Administration has given TV stations a few months extension on analogue broadcasts, because there were still six million people who had yet to acquire set-top decoder boxes for digital TV signals. However on the previously scheduled date of February 17th, over 200 stations turned off their analogue signals. Fortunately here in Australia we will have a phased period of analogue TV shutdowns with Mildura scheduled to be the first to do so in 2010.

I have noted Jakarta on shortwave in English at around 1300 on around 9526. Propagation varies widely from day to day, as does the frequency. It is a pity that their external service, the Voice of Indonesia is so difficult to hear, compared to the ease of hearing provincial stations on the 60 and 90 metre tropical allocations.

Well that is all for this month. Please send me your news to vk7rh@wia.org.au

DX News & Views continued

Chris ZL1CT will be active as ZK2V from Niue (OC-040) between the 16th May and 20th June. His five week expedition aims to give as many stations as possible their first QSO with ZK2. Resources are limited, and he will operate mainly on 80, 40, 20 and 15 metres CW, SSB and RTTY with some activity on 30, 17 and 12 metres. QSL via N3SL. A log-search will be available at <http://www.gm7v.com/zk2v.htm>. Chris plans to update this frequently.

A team of seven members of IOCA Group (Franjo/9A2MF, Daki/9A2WJ, Boki/9A3KB, Dado/9A3TA, Emr/9A6AA, Sven/DF9MV and Mat/ DL5MFL) will be active as 9A0CI from Vela Palagruza Island (EU-090, CI-084) and lighthouse (LH-0057, CRO-012) from May 8th to the 16th.

They will operate SSB, CW and digital modes on 10-80 metres. QSL via DE0MST, direct or bureau. They also plan to operate SSB as 9A/homecall and homecall/p from Mala Palagruza

Island (EU-090, CI-461) and from the islet of Kamik Od Tramuntane (CI-960, new one for the IOCA programme). QSL via home calls. Further information will be available on <http://www.inet.hr/9a6aa/iocaplan.htm>

AP2ASHF (the suffix stands for Axel Helmut Scholz, Foreigner) is the callsign issued to Axel DL7UPN. He expects to visit Pakistan "several times" before June and to operate CW, RTTY and PSK. QSL via DL7UPN.

Patrick F4EBT will be active as FG/F4EBT from Basse-Terre, Guadeloupe (NA-102) from March 21st to April 11th. He plans to operate holiday style on SSB.

Look for JD1BLK (QSL via JM1LJS), JD1BMH (QSL via JG7PSJ) and JD1BLV (QSL via JI5RPT) who will be active from Chichijima (AS-031), Ogasawara from April 29th to May 12th. They plan to operate CW, SSB and digital modes on 160-6 metres, plus satellite. Log searches and further information will be available

on their individual websites: <http://radio-dream.com/jd1blk/e/> (JD1BLK), <http://sapphire.ganko.tohoku.ac.jp/jd1bmh/> (JD1BMH) and <http://www.ji5rpt.com/jd1/> (JD1BLV) [TNX JI5RPT].

RIANB, with Nick RW6ACM (ex RIANL) operating, is on from the Russian Antarctic station Mirny. He likes both CW and SSB on HF. He will be there for the next few months. QSL via RN1ON direct or bureau.

BIZ in China will be in the CQ-M Contest May 9th to the 10th, with N1UR operating. Ed will be using CW and SSB on all bands including 160. QSL information yet to be determined.

Good luck in the pile-ups.

Special thanks to the authors of The Daily DX (W3UR) -- 425 DX News (11JQJ) and QRZ.DX for information appearing in this month's DX News & Views. For interested readers you can obtain from W3UR a free two week trial of The Daily DX from www.dailydx.com/trial.htm

VHF/UHF – An Expanding World

David Smith VK3HZ
vk3hz@wia.org.au

Weak Signal

David Smith - VK3HZ

After all the activity over the last few months, the latter part of February and early March has been very quiet.

The bushfire disaster in Victoria has also seen many people diverted from amateur radio activities to much more important tasks. Most of us in this region have been touched in some way by this disaster and it is hoped that we learn some important lessons from this to avoid such a thing happening again.

So to reports of propagation conditions. The last reported contact from VK to ZL occurred on the evening of February 8th, from Gary VK2KYP to Bob ZL3TY on 2 m. After a frantic December and January, Bob is probably enjoying the rest!

In the middle of February, tropo conditions opened across the Bight between Adelaide and VK6. On the evening of the 14th, Phil VK5AKK worked Wally VK6WG on 2 m and 70 cm. The following morning, Bill VK5ACY and Brian VK5BC also worked Wally on 2 and 70. That evening, Brian again worked Wally on 2 m, 70 cm and 23 cm (5x1 report). A little later, on the evening of February 21st, Colin VK5DK in Mt Gambier worked Bob VK6BE in Albany on 2 m. However, the season's first Melbourne to VK6 tropo contact is still proving elusive.

One area where significant DX sometimes gets overlooked by us "southerners" is within VK4 itself. Good tropo conditions often occur up along the coast, and when you consider that the distance from the VK2/4 border to the tip of VK4 is about 2300 km, then some quite substantial intrastate contacts can occur. John VK4JMC reports on just such an opening:

On March 3rd and 4th, tropo openings occurred from Brisbane extending to Far North Queensland. The first reports posted on the logger were of the VK4RTT beacon being heard in FNQ at 1900Z. On both days I was able to work VK4ZDP (1310 km), VK4FLR (510 km), VK4BEG (1340 km), VK4BKP (795 km)

and VK4FNQ (1045 km) with signal reports ranging from 5x1 to 5x9. North Queensland stations were also worked by VK4BG and VK4XRA.

Colin VK5DK in Mt Gambier reports on the activities in his part of the country over the summer period:

Conditions have been very good during January and early part of February in the SE of South Australia.

On January 7th from 2315 Z, there were some very good backscatter signals on 50 MHz indicating that there was a possibility of Es on 144 MHz so a close watch was kept on 144.100 MHz. At 2340 Z, VK4DD (5/9) was worked and over the next hour the following stations were worked VK4APG (5/9), VK4TJ (5/9), VK4DH (5/9), VK4ACE (5/9), VK4AFL (5/9), VK4EME (5/9), VK4ADM (5/7), VK2JHN (5/7), VK4ZO (5/1), VK4ZJ (5/7), VK4ZBH (5/9) and VK4ALH (5/9). Signals were generally very strong over the entire hour.

The South East Radio Group went portable for the Summer VHF/UHF Field Day (17th and 18th January) to our usual hilltop and entered the 24 hour multi-operator section under the Club Callsign VK5SR. Conditions were extremely good for all bands and a total of 325 contacts was made over the 24 hours on bands from 50 MHz to 10 GHz. Contact tallies were as follows: 50 MHz (31), 144 MHz (119), 432 MHz (84), 1296 MHz (45) 2.4 GHz (12), 3.4 GHz (9), 5.7 GHz (9) and 10 GHz (16).

The most memorable contacts were the seven VK6 stations worked on 144 MHz on a tropospheric opening to Perth on the Sunday morning. Stations worked were VK6WZ, VK6HK, VK6KXW (Beverley) (worked on 70 cm as well), VK6ZKO, VK6OX, VK6KY and VK6WG (Albany). The other good contacts were on the microwave bands to VK3WRE and VK3ZYC portable on Mt Tassie in Gippsland - a distance of 530 km with contacts on 2.4 GHz, 3.4 GHz, 5.7 GHz and 10 GHz with very good signals on all bands.

On the morning of 27th January, signals were very good in the NW direction with Graham VK5KGP and Geoff VK5GF, both in the Victor Harbour area, being worked on 1296 MHz with S9 signals on SSB. Also Alan VK3XPD in Melbourne was 5/5 on 1296 MHz.

There was another Es opening to VK4 on the 30th January on 144 MHz at 0010 UTC with John VK4FNQ (5/5), followed by Ray VK4BLK (5/3) and VK4LMB (5/8) before a Fire Call took me away from the opening. Tony VK5ZAI at Kingston S.E. also worked several stations in the VK4 call area on 144 MHz.

On the evening of February 3rd, conditions were again very good both in the Adelaide and Melbourne directions with several contacts being made on 432 MHz and 1296 MHz. Of note were the contacts on 1296 MHz with Peter VK5PJ (5/4) Michael VK3KH (5/9) Charlie VK3NX (5/9), Brian VK5BC (5/1) Garry VK5ZK (5/4) and Ross VK3MY (5/9). Ross VK3MY was also copying my signal on 2403.100 MHz (40 watts), but I was unable to copy the 1 watt signal from Ross. The following morning 4th February, conditions were extremely good on 144 MHz, 432 MHz, 1296 MHz and 2.4 GHz with the following stations worked: VK7JG (5/9 on 144 MHz), VK3DUT (5/9 on 144 MHz), VK3ZRI (5/9 on 144 MHz), VK3AXH (5/9 on 144 MHz, 5/9 on 432 MHz, 5/9 on 1296 MHz and 5/9 on 2.4 GHz), VK3YNB (5/9 on 1296 MHz), VK3XPD (5/9 on 144 MHz, 5/9 on 1296 MHz and 5/8 on 2.4 GHz), VK5ZK (5/9 on 144 MHz and 1296 MHz), VK7AC, VK3ESE, VK3XQ, VK3DMW, VK3TPR, VK5GF, VK5ATW all (5/9 on 144 MHz).

The contacts on 2.4 GHz are my first contacts from my home QTH into Ballarat and Melbourne. Power run from this QTH on 2.4 GHz is 40 watts into a 25-element Yagi mounted up 16 m on the tower and fed with LDF550 Heliax cable.

Summer VHF/UHF Field Day

The Summer VHF/UHF Field Day has been run and won (results elsewhere in this issue) with a very high level of participation in this (VK3) area of the country and excellent conditions to match.

Tim VK5ZT (First in Section A - Single Op 24 Hours) threw himself headfirst into the contest:

When the contest results are released I am sure there will be great discussion concerning my score and how it was achieved. This time last year I had never heard of maidenhead locators - I was away from the AR scene for around 10 years.

I spent 2 weeks building the equipment I needed, while on annual leave. I dare not tell my wife what was spent overall. I commandeered her black 2001 Falcon sedan for the event - that caused enough angst.

I spent 2 days equipping the car for the event - luckily she was away and could not see what I did. The car was equipped with transceiving equipment for ALL BANDS from 6 m to 3 cm. Waveguide and other antennas were taped to windows, bolted to the tow bar or on a magnabase. An equipment rack was installed over the passenger side seats. An inverter supplied mains power. A laptop took care of the scores and two GPS systems helped navigate and locate grid boundaries.

An Engel fridge ran in the boot to supply cold drinks and pre-prepared food. Spares and a full toolkit were also in the boot, including a 100 MHz oscilloscope!

I drove and operated the entire contest alone in the car - there really was not much room for anyone else anyway.

I operated with a local radio club team who were similarly equipped. We covered over 1000 km. While the resulting score was spectacular (11 grid squares activated and 13421 points total), we will not be doing it again! I stopped at a garage 50 km from home (Snowtown, SA) and stripped the car so my wife would not have a heart attack when I got home!

Sure, we won't be doing it again - but that does not mean we won't make a determined effort to win again.

EME activity at VK5MC

Chris VK5MC near Millicent has been working for some years on construction of a large EME dish. The dish project was taken over from Eric VK5LP, a long-time author of this column. Chris writes:

On January 3, 2009, Eric VK5LP saw the EME antenna that he started to build in early 1980 become a reality. Now living in a nursing home at Meningie, he was given the medical okay to make the 300 kilometre trip to the QTH of Chris VK5MC. He is the patron of the South East Radio Group and some of the members were also present to welcome him.

The antenna that Chris VK5MC has finally finished is a 9.8 metre (32 feet) parabolic dish with an F/D of 0.45, computer tracked by a VK5DJ beam controller. Some of the techniques used by Chris in the construction of the antenna will be given in a discussion paper this year at GippsTech.

Equipment on 1296 is a MiniKits transverter and sequencer to a 2C39 water cooled N6CA amplifier giving 65 watts out, preamplifier used at the W2IMU dual mode feed is a G4DDK 23 cm preamp.

Doug VK3UM was on 1296 MHz for the occasion and was contacted on EME firstly on CW receiving a report of 549 from Doug

and hearing him 559. Contact was then made on SSB with reports of R5 S3 and R5 S5 respectively.

Later in the afternoon VK2JDS was decoded calling CQ using JT65C, and signals from our sched with VETBBG in Vancouver, Canada were heard and seen on the waterfall display but no decodes could be made.

VK3UM EME

Doug VK3UM was right in the middle of the worst area of bushfires in the state. By some miracle, and a lot of



Chris VK5MC and Eric VK5LP in front of the 10m Dish



L-R: Chris VK5MC, Ian VK3NBL, Eric VK5LP and John VK5JA

hard work, he managed to come through relatively unscathed, even though the fires were licking at the outer edges of his property.

Just prior to the bushfire disaster, Doug managed to get in some EME operation, although not without some trials. Doug reports:

After six days of over 43 deg heat, I will gladly swap for the overcoats in the northern parts of the world. I had a sked with VE2ZAZ. I tipped the dish over and went Auto track. It found the Moon then at 1 deg and I sat back and waited for sked time.

Then I noticed the up indicator was illuminated but the hydraulics were not operating. Gosh I said and drove out to the control system and confirmed the slave up relay was not pulling in. I moved the relay board and it started working. I left an artificial finger (screwdriver) in situ and resumed operation. After working Bert on 70 cm, I switched to 23

and ZL1WN returned with a good signal. We did not complete however, then VE7BBG called and we had an excellent QSO, the first with Cor in decades!

I went back into the searing heat to find the problem with the elevation drive relay board. It turned out to be a crack in a track on the vero board I used for the relay drivers. (I hate the stuff but it is quick and easy to use). The track was the one on the very edge of the board and had "horse-shoed" up from the board as the end of the board had warped in the heat. This caused the track to crack. This relay board was firmly fixed in 4 places (with screws) so it could not move, but the edge did and it bent!

I came on briefly during the start of the European window and worked UA3PTW on 70 with a huge signal as always. I called CQ for half an hour on both bands with no response and gave up.

Then the fires broke out ...

Beacon News

Mark VK2XOF reports that the VK2RSY 2 m beacon at Dural is back on air on 144.420 MHz CW.

The transmitter is running 20 W and is locked to an ovened crystal oscillator so the frequency stability should be a few Hz. The antenna is a pair of crossed dipoles on the roof of the Dural transmitter building.

In the future when other building works are completed, the intention is to move the beacons to the top of one of the 20 m poles

The beacon on 6 m (50.289 MHz) has also been upgraded with a new transmitter now running 20 W and also locked to a crystal oven.

The 70 cm and 10 m beacons are the next projects starting shortly.

Any reports would be welcome.

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

The Magic Band – 6 m DX

Brian Cleland VK5BC

Good openings continued in the first half of February but many 6 m operators had returned to work and activity was not as great as December/January. The second half saw conditions almost completely disappeared with only the odd report of a beacon being heard.

On the 1st Feb Paul A35RK worked several VK4s and heard the FK8 beacon and the Hobart VK7RST beacon.

The 2nd Feb saw Brian VK4EK in Sapphire Central Queensland work several VK5s including Col VK5DK in Mt Gambier, Alex VK5ALX in Whyalla and Brian VK5BC/p Comy Point.

Rod ZL3NW in Christchurch worked Brad VK2GWB and Brian VK2AH on the 4th February while Norm P29NB worked into northern VK4 and Brian VK4EK worked ZL2ASF.

February 5 was a very good day, the band opening between all of the eastern states plus VK5. Early it was mainly VK4 to VK5 then moving down to VK2 with VK7 and VK3 getting in the act later in the day. Kerry ZL2TPY was hearing several VK beacons plus the FK8 beacon all day. Norm VK7AC in Launceston worked several VK2, 4 and 5 stations.

On the 7th Feb Rod ZL3NW Christchurch worked John VK2BHO

and Peter VK2ZTV while Scott VK4CZ Brisbane worked Peter ZL4LV Dunedin. Ivan VK5HS Denmark reported hearing the keyer that David VK5AYD Coober Pedy was running.

A brief opening on the 8th Feb from VK5 to VK4 with Brian VK5BC working Wade VK4ACB Hervey Bay and Ray VK4BLK Yeppoon. The Hunter Valley beacon VK2RHV was also reported from ZL2 and 3.

On the 10th Feb Rod ZL3NW in Christchurch worked Mike VK2ZQ and Mike VK2BZE both in the Wollongong area. Brian VK5BC Gawler worked Les VK4ALH Sunshine Coast and Mick VK4ZAA Brisbane whilst Brian VK4QB Rockhampton worked Brad VK2GWB, Brian VK3CCR Altona and Dave VK7ZKO. Wade VK4ACB Hervey Bay worked Col VK5DK Mt Gambier and the Alice Springs beacon was audible in VK3 and 5.

On the 11th Feb Brian VK5BC worked Tony VK2BTS and Mike VK2OT from the Grafton area and Col VK5DK in Mt Gambier worked Peter VK4EA in the Brisbane area. Brian VK4QB in Rockhampton reported hearing the VK7 beacons and working Peter VK3TPR in Melbourne. Rod ZL3NW also reported hearing the VK7RAE beacon.

Late in the afternoon of the 12th Feb there was an opening from Far North VK4 to VK5 with Dale VK4SLX working Brian VK5BC.

The band was open on Feb 13th from VK4 to VK3, 5 and 7 on and off throughout the day. Joe VK7JG Launceston worked Brian VK4EK and Lloyd VK4ERQ whilst Colin VK5DK Mt Gambier and Brian VK5BC worked several stations including VK4s AHW, ERQ, BLK, WTN, ACB, QB and ID as well as VK2s YO and BHO. The Alice Springs beacon VK8RAS was also reported in VK2 and 5.

On the 15th Feb David VK4ZDP near Innisfail worked Les VK4ALH Sunshine Coast and Neville VK2YO at Kingscliff.

That sums up February, the remainder of the month being extremely quiet. It seems that another very good summer 'E' season has come to an end and unfortunately to date there has not been any reports of northern openings to JA etc. come on the next sunspot cycle.

On a sad note I am sure all 6m operators will miss Jim VK9NS who passed away on the 10th February, RIP Jim.

Please send any 6 m information to Brian VK5BC at bcleland@picknowl.com.au.

Hamads classifieds

FOR SALE NSW

•OZI-BEAM 2 m Junior 3 ele Yagi kit. We are now taking orders for this kit which is currently under production. Order early to get one of the first production run. See our website. OZI-BEAM Kit \$70 + postage. The OZI-WIRE, 3.5 MHz to 55 MHz, broad band antennakit. OZI-WIRE BBA Kit \$99 + \$5.50 postage to VK. The OZI-POLE portable dipole (40 m to 6 m) Kit + opt. 80 m coil kit. OZI-POLE PD Kit \$99 or opt. 80 m coil Kit \$35 + postage. The OZI-DATA interface, a radio data interface kit for PSK31, SSTV, etc. \$50 + \$5.50 postage to VK. Contact the Mid North Coast Amateur Radio Group Inc. P.O. Box 505 Bellingen NSW 2454 <http://www.mncarg.org/> or mncarg@yahoo.com.au

•RCR AR88D receiver. Good working condition. Original manual and other info. Mods. documented. Many spares. Photos available. John VK2BJU 02 4841 0272 demerland@goulburn.net.au

WANTED NSW

•I am looking for a RE COLLINS 312B 5 remote VFO unit and a COLLINS 30-L1 linear amp. Prefer both to be in good operating and physical condition, though non-working considered as long as intact. If you have either which you are

not using or are prepared to part with, please contact me. Steve Beveridge VK2XWL; please email steve.b@intermeds.on.net Phone QTH 02 4952 5443 or mobile on 0412 194 513.

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FOR SALE TAS

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•Is there anybody who could repair a COLLINS R-391 rx. Nick L20106 02 9477 2134 Asquith

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has been started and can be found at
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We are looking for writers of articles suitable for this website.

The intention is that it will become an online encyclopaedia for hams.

Please log into the site, register and start writing!

Tim Roberts VK4YEH QTHR.

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Trevor Wardrope VK8TJW
Wayne Cockburn VK8ZAA

Broadcast details

VK1	VK1WIA:	Sunday 0900 local on the Mt Ginini repeaters 146.950 and 438.050 MHz. The UHF repeater requires 123 Hz access tone and is linked to the Goulburn repeater.
VK2	VK2WI:	Sunday 1000 and 1930 local, on 1.845, 3.595, 7.146, 10.125, 14.170, 28.320, 52.525, 145.6000, 147.000, 438.525 and 1273.500 MHz. Also 5.425 MHz USB in the morning. Plus provincial relays both sessions and country relays in the morning via local repeaters. VK1WIA news is included in the morning.
VK3	VK1WIA:	Sunday 10:30 am and 8 pm Local Time. Amateur Radio Victoria VK3BWI B/cast Network: 3.615, 7.158, 10.130, 147.250 VK3RMM Mt Macedon, 146.700 VK3RML Mt Dandenong, 147.225 VK3RWG Mt Baw Baw, 438.075 VK3RMU Mt St Leonard.
VK4	VK1WIA:	Sunday 0900 local via HF and major VHF/UHF repeaters.
VK5	VK5WI:	Sunday 0900 local, on 1.843, 3.550, 7.140, 28.470, 53.100 AM, 146.900 (SE), 146.925 (CN), 147.000 and 439.975
VK6	VK6WIA:	Sunday 0900 local, on 1.865, 3.582, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120, 50.150, 146.700 and 438.525 MHz. Country relays on 3.582 MHz and major repeaters. Repeated Sunday, 1900 local, on 1.865, 3.565, 146.700 and 438.525 MHz. Country relays on major repeaters. Also in 'Realaudio' format from the VK6WIA website.
VK7	VK7WI:	Sunday 0900 local, on 1.840 AM and 3.570 MHz and on major repeaters. VK7 regional news follows at 0930 local, on 7.090 and 14.130 MHz, and on major repeaters.
VK8		Sunday 0900 local, on 3.555, 7.050, 10.130 and 146.900 MHz.

Note that many clubs broadcast the WIA News via local VHF and UHF repeaters. Check the News section of the WIA website.

Special Edition – Friday 1st, Saturday 2nd, Sunday 3rd May 2009

Speaker profiles

Rex Moncur VK7MO & Justin Giles-Clark VK7TW Lightwave Communications

Rex Moncur VK7MO has been a beacon of achievement since he became active following his retirement from the workforce. With interests in weak signal VHF and UHF propagation, he began exploring various digital modes so that he could make contacts with distant amateurs even when conditions were flat. Rex was a key in promoting the adoption of the WSJT software suite in VK following its release. Of recent years, Rex has begun exploring the possibilities of light wave communications.

Justin Giles-Clark VK7TW has been a regular contributor to AR magazine over recent years, collating the News from VK7 column. Justin has been heavily involved in REAST and played a key role in the amateur observations of the BPL trial in Hobart. He has been involved in various light wave experiments for several years.

Rex and Justin are both recent recipients of the Ron Wilkinson Award.



Drew Diamond VK3XU

A new band soon: 136 kHz – an introduction to amateur LF communications

Drew Diamond VK3XU is well known for his prolific articles on how to build homebrew equipment, which appear in AR and in his self-published books. The majority of Drew's articles relate to the lower HF bands and are of uniformly of excellent quality. He describes the appropriate theoretical basis of the project before giving clear instructions for the construction process, accompanied by his clear distinctive diagrams. It is no surprise that Drew has begun exploring equipment for the soon to be released LF band at 136 kHz.



Andrew Martin VK3OE

Tropospheric Ducting – From Ross Hull to the present

Professionally, Andrew Martin VK3OE (ex VK3KAQ) qualified as a Telecommunications Engineer in 1975, (until recently FIE Aust. SMIEEE). His current amateur radio interests are in VHF propagation and the structure of the lower atmosphere, especially elevated ducts. He developed a SODAR unit for his professional activities which serendipitously yielded significant information about the structure and behaviour of tropospheric ducts. His presentations at the GippsTech Conference and his article in AR have significantly improved the understanding of ducts and their use for communications by amateurs.



Phil Harman VK6APH

Software Defined Radio – Principles and Practice

Together with Steve Ireland VK6VZ, Phil Harman VK6APH has published a series of articles in the RSGB Journal RadCom – the first appeared in April 2006. Phil has been heavily involved in the design, construction and testing of several key modules of the High Performance Software Defined Radio (HPSDR) project, a project that has recently released the latest of the modules - Mercury, an HF direct sampling receiver board that is a companion to the Penelope 1/2-watt transmitter/exciter board. These two modules, together with other key modules, form a SDR transceiver system covering 100 kHz to 55 MHz.



David Smith VK3HZ

Am I really on frequency? Locking our radios to GPS references

David Smith VK3HZ is another regular presenter at the GippsTech Conference. Many amateurs have found that many transceivers disagree as to 'where' a particular frequency is located. Those using narrow-band digital modes note that most radios drift sufficiently during the transmit/receive cycles that decoding of the message can become difficult. David will outline the issues and some of the approaches that can be taken to reduce or eliminate the problem.



Barry Miller VK3BJM

Aircraft enhancement – how to exploit it

Barry Miller VK3BJM has long been interested in VHF and UHF weak signal communications and has used Aircraft Enhancement propagation regularly from his home station and when portable. He is also interested in taking long trips into the outback, with a particular passion for visiting the Flinders Ranges. Barry has combined these two interests and routinely tests the limits of Aircraft Enhancement propagation from rare grid squares.



Foundation Licence Breakout Sessions

Ron Bertrand VK2DQ

Beyond Foundation – the next step

Currently serving as a WIA Director, Ron Bertrand VK2DQ has a long history in education of persons interested in becoming radio amateurs, or in helping existing amateurs to upgrade the level of their qualifications. Ron was one of many involved in discussions that resulted in the introduction of the Foundation Licence in Australia. He is also a key member of the group that oversees the running of the WIA Examination Service. Ron founded his on-line Radio and Electronics School in 1998, providing a hybrid interactive system of training for the Standard and Advanced amateur licences.



Roger Harrison VK2ZRH

The Foundation bands, the coming solar peak and propagation

Licensed in 1964 (VK3ZRY), Roger has worked in electronics manufacturing, ionospheric research and geophysics in Antarctica, but is better known from his career in journalism, as editor of Electronics Today International, Australian Electronics Monthly, Manufacturer's Monthly, Electronics News and 6UP (for VHF-UHF enthusiasts). Roger has chased DX from exotic locations like Antarctica, Cocos Island, Papua New Guinea, Townsville and a very deep valley in Melbourne's North Bawley.



Peter Freeman VK3KAJ

Introduction to microwaves

First licensed in 1979, Peter is primarily interested in the area of VHF, UHF and microwave weak signal amateur communications. Professionally Peter is a lecturer in human physiology. Amateur radio provides a technically stimulating diversion from work. Peter was the initiator of the GippsTech conference, which came into being with the support of the local club - EZARC. Peter is also the editor of Amateur Radio magazine.



And Remember!

GippsTech2009 is scheduled for July 11 and 12. Speakers are invited to contact Peter VK3KAJ. Details at the EZARC web site <http://www.vk3bez.org/>

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